Chartered Realty Investor®

CANDIDATE GUIDE

CRI Level 2 Exam

10.24.08

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0.0 PREFACE

The registered marks of the Chartered Realty Investor Society (the "CRI Society") are the Chartered Realty Investor®, CRI® and the CRI logo. The superscript version of the trademark registration symbol (®) must appear after the first use and after each prominent use. {see section 10.0}

0.1 Disclaimer, Warning and Approval

The information contained, cited or referenced in the *CRI® Level 2 Exam Candidate Guide* (herein the "*Guide*") does not constitute any investment, legal or tax advice. It is solely for the purpose of understanding the ethics-based competency, or Tasks and ethical professional conduct, covered by the Chartered Realty Investor (CRI) Level 2 Exam and is not comprehensive. In all events, one should seek independent, qualified counsel.

Citations, links or pointers connecting with web sites and other sources are included in the *Guide,* provided by the CRI Society as a courtesy only. The CRI Society assumes no responsibility or liability for such other sites' content, accuracy, or compliance with applicable laws.

This publication was developed by the Candidate Handbook Committee of the CRI Society and approved by the Board of Governors or the CRI Society, which is solely liable for its content. The *Guide* cites and contains copyright readings and protected proprietary materials of the volunteer contributors.

0.2 Introduction

Congratulations on becoming a Candidate for the CRI designation and on passing the Level 1 Exam.

The *Guide* will assist you in understanding the CRI Charter, CRI Society and the Level 2 Exam.

0.3 How to Use this *Guide*

Use:

- **Sections 1.0 – 10.2** to learn about the CRI Charter, CRI Society and the Level 2 Exam, including a description of the assessment instruments used to make certification decisions and the research methods used to ensure that the assessment instruments are valid
- **Appendix A** to read references on the ethical conduct and professional competence that are required to make and to manage real estate, investment portfolio decisions and that are tested by the Level 2 Exam (see section 5.1)
- **Appendix B** to find the definition of an ethical conduct, investment, real estate or regulatory term or acronym that is cited in sections 1.0 – 10.2 or in Appendix A
- **Appendix C** to find the definition of a salient, investment or statistical formula that is cited in Appendix A
- **Appendix D** to find information on derivative financial instruments that are cited in Appendix A
- **Appendix E** to learn about representative, real estate related organizations, including. the Chartered Realty Investor Society
- **Appendix F** to learn the terminology of how an organization (e.g., the CRI Society) identifies and certifies a person, who demonstrates possession of the requisite knowledge and ethical professional conduct, to hold its professional designation
- **Appendix G** to identify a website for additional information on a topic in or related to this *Guide*, including information on accreditation, ethical conduct, certification, governance, investing, real estate, regulation and securities
- **Appendix H** to find the CRI Society forms for Level 2 Exam enrollment, CRI Society membership, and CRI Charter holder and Candidate compliance

All terms not defined in this *Guide* shall have the meaning stated in the latest edition of *Black's Law Dictionary*.

1.0 DEFINING A CRI® CHARTER HOLDER

At the core of the CRI Society designation (the "CRI Charter" or "Charter") is the understanding that a CRI Charter holder is a fiduciary participant in the real estate, investment decision making and/or implementation activities of the portfolio management process and that a fiduciary participant is a service professional who:

- maintains knowledge of and complies with all applicable laws, rules, regulations standards of conduct and statues
- deals fairly in any market or marketplace
- uses relevant competence and independent, objective judgment
- preserves the confidentiality of client materials and nonpublic information
- discloses fully to a customer and to a client any material conflict of interest
- acts as a prudent expert in the best interests of a client
- has a reasonable basis and supporting documentation for a recommendation in a research report and financial analysis

The definition of a CRI Charter holder embodies the principles of the CRI Society; section 10.1, below, describes the correct use of the CRI Society titles.

The CRI Society awards a CRI Charter holder a limited, revocable right to use the CRI Charter. A CRI Charter holder does not earn the CRI Charter and does not own any rights in the CRI Charter.

2.0 LEARNING ABOUT THE CRI SOCIETY

The CRI Society is a tax-exempt, independent and transparent section 501(c)6 association of service professionals founded in 1999 that helps ensure the safety of the public and other stakeholders by supervising its real estate, certification designation, the CRI Charter.

The mission of the CRI Society is to recognize ethics-based competency in the global real estate industry for the benefit of the public through the award of a limited, revocable right to hold its CRI Charter.

The function of the CRI Charter is to certify the competency and ethical conduct evidenced by a fiduciary participant in the real estate, investment, portfolio decision-making and/or implementation processes.

The CRI Society awards a limited, revocable right to hold the CRI Charter solely to a CRI Candidate who:

- passed two successive exams (individually the CRI "Level 1 Exam" and "Level 2 Exam" or an "Exam" and collectively the "Exams")
- agreed to comply with the continuing requirements of a Charter holder as described in section 9.1.2 below

and

- is and continues to be a Member of the CRI Society in good standing, as outlined in section 9.1.2 below and as otherwise determined by the CRI Society in its sole discretion

A CRI Charter holder has not permanently earned the CRI Charter and does not own any rights in the CRI Charter.

The CRI Society is governed by its By-Laws and led by its Board of Governors to:

- act transparently
- act consistently with the definition of a CRI Charter holder
- ensure administrative independence and autonomy in essential certification decision making activities
- include persons from the certified population, as well as voting representation from at least one consumer or public member

The CRI Society:

- is a certifying not-for-profit organization that offers and operates a voluntary certification program by which a CRI Candidate, who has demonstrated the ethics-based competency required in the real estate investment decision making and/or implementation activities, is identified by the CRI Society to the public and other stakeholders through the award of a limited, revocable right to hold the CRI Charter
- owns exclusively the CRI Charter
- is committed to mandatory and academically rigorous continuing education to demonstrate to the real estate industry and the public that ethics-based competency is maintained by each CRI Charter holder
- acts in the best interest of the real estate investing public
- is not a trade association
- does not make any political contributions (e.g., directly, indirectly through any trade association, or otherwise)
- shall not use any pay-to-play process
- does not accredit, certify, endorse, offer, promote, require or warrant any service of any contributor to, or sponsor for, the CRI Society program
- does not accredit, certify, endorse, offer, promote, require or warrant any Exam education, preparation or review course of study or training program leading to the CRI Charter certification
- does not deliver or communicate any Exam information, including but not limited to questions and answers, to any contributor, supporter, vendor or other outside entity, except for the same information that it provides to any Candidate
- does not require, offer or sell any course to prepare a Candidate
- does report, after a Candidate's or Member's prior written authorization, the person's name, designated mailing address, e-mail address and next required Exam or CRI Exam to any vendor of a review or preparation course for an Exam and any other CRI Exam that satisfies the CRI Society's requirements for licensing and for using the CRI Society's mailing list and trademarks, and
- does grant to a satisfactory review course vendor only a limited, personal, non-transferable, non-exclusive, revocable license to use only the CRI Society's trademarks solely for the purpose of identifying the licensee's CRI Society review course materials.

2.1 Maintaining a List of CRI Charter holders

The CRI Society maintains and, upon receipt of a satisfactory request, will provide a free list of all current CRI Charter holders and copy of their respective Disclosure Statement and will verify whether or not a CRI Charter holder is currently in good standing, including whether or not a CRI Charter holder satisfactorily has:

- filed the latest required Conduct Agreement
- filed the latest required Disclosure Statement
- satisfied the latest required continuing education program
- been recertified, if required by the CRI Society

The CRI Society shall not communicate any other information that may violate the confidentiality rights of any Charter holder, Candidate or Applicant. Confidentiality is discussed further in section 9.6, below.

3.0 LEARNING ABOUT THE CRI® CERTIFICATION PROGRAM

The CRI Society has commenced its certification program with the award of its CRI Charter designation to persons who have satisfied all of the CRI Charter holder certification requirements.

The CRI Charter holder certification program has:

- evidence supporting Exam content linked to a job analysis for its two Exams
- respective passing points for each Exam that were informed by criterion-referenced standard setting studies
- observations of the consistency of pass/fail decisions that have been sufficiently high to satisfy testing standards articulated in 29 CFR-Labor, Section 1607.14 within the Uniform Guidelines on Employee Selection Procedures and the *Standards for Educational and Psychological Testing* (1999) published by the American Educational Research Association, American Psychological Association, and the National Council on Measurement in Education

The CRI Society is a member of the National Organization for Competency Assurance (NOCA). The CRI Society has not filed an *Accreditation Application* with National Commission for Certifying Agencies (NCCA); i.e., the CRI Charter holder certification program is not accredited by NCCA. The CRI Society may elect in the future to apply for accreditation by NCCA, in its sole discretion.

4.0 UNDERSTANDING THE DEVELOPMENT OF THE CRI® LEVEL 1 AND LEVEL 2 EXAMS

The CRI Society, with the expert psychometric assistance of Applied Measurement Professionals, Inc. ("AMP") developed the CRI Level 1 and Level 2 Exams to conduct certification activities in a manner that upholds standards of ethics-based competent practice in the real estate industry for the benefit of the public and other stakeholders.

4.1 Real Estate Industry Job Tasks and the Two CRI Practice Analysis Surveys

The CRI Society organized a fair sample of real estate professionals to develop and to analyze two lists of all the job activities (or "Tasks") required to:

- manage a real estate transaction (the "CRI Level 1 Task List")
- make and manage real estate, investment portfolio decisions (the "CRI Level 2 Task List")

The CRI Society and AMP then converted the Task Lists into two surveys (individually the "CRI Level 1 Practice Analysis Survey" and "CRI Level 2 Practice Analysis Survey" and collectively herein the "Practice Analysis Surveys" or "PASs"). These surveys asked participants to rate the importance of each Task to the competent and ethical performance of their routine work. The solicited participants included:

- debt, derivative and equity real estate investors
- service professionals who support the real estate investment process
- academics in the real estate and investment fields

to rate the importance of each Task to the competent and ethical performance of their routine work.

4.2 The CRI Detailed Content Outlines and Content Categories

The CRI Society, with the assistance of AMP, analyzed the results of the two Practice Analysis Surveys, narrowed the two Task Lists and organized the remaining Tasks by competency topics ("Content Categories"). The Tasks in each Content Category were further classified by the CRI Society and AMP into subdivisions (or "Sub-Content Categories"). The resulting two lists of subdivided Tasks are the "CRI Level 1 Detailed Content Outline" and "CRI Level 2 Exam Detailed Content Outline".

Each Exam's Detailed Content Outline (or "DCO"):

- contains the Tasks covered by the respective Exam
- assigns the number of questions (or "Items") in the individual Exam to each Content Category
- identifies the required level of understanding (or the "Level of Cognitive Complexity") that is required by the industry to perform each Task
- identifies any required interaction with the ethics domain for each Task

4.2.1 The Levels of Cognitive Complexity

Each Item on an Exam requires a level of understanding (or a "Level of Cognitive Complexity") that a Candidate will use to respond.

From lowest to highest Cognitive Level, the three Levels of Cognitive Complexity are:

1. **Recall**: The ability to recall or recognize specific information (e.g., Remember a definition)
2. **Application**: The ability to comprehend, relate or apply knowledge to new or changing situations (e.g., Recall and use a formula and calculate an answer, or recall and use a definition to read a graph or data table)
3. **Analysis**: The ability to analyze and synthesize information, determine solutions and/or to evaluate the usefulness of a solution (e.g., Recall, Apply and evaluate the significance of a calculation)

A higher Cognitive Level requires understanding how to perform the Task at any lower Cognitive Level. The words Recall, Application and Analyze only appear in the Task statements, not in the Exam Items.

Each Task in Appendix A of this *Guide* is identified by the highest Level of Cognitive Complexity that a Candidate may be required to use when performing a Task included in the Level 2 Exam.

4.2.2 The Interaction with the Ethics Domain

Some Level 2 Tasks cover job activities that interact with the ethics domain (i.e., that require ethical professional conduct in addition to a real estate competency). These Tasks are identified by the inclusion of the phrase "with ethical conduct" only in the Task statement, not in an Exam Item.

5.0 UNDERSTANDING THE CONTENT COVERED BY THE CRI® LEVEL 2 EXAM

The Level 2 Exam tests the professional competence and ethical conduct in the job activities, or Tasks, required to make and to manage real estate, investment portfolio decisions.

There are 140 Tasks in the Level 2 Detailed Content Outline. They are organized into five Content Categories that contain nineteen Sub-Content Categories as listed below:

1. Ethical Conduct
2. Capital Market Instruments
    - Fixed Income Securities
    - Equity
    - Hybrid & Miscellaneous
3. Real Estate Asset Management at the Property Level
    - Protecting Value for the Debt Investor
    - Maximizing Total Return for the Equity Investor
    - Preparing for Contingencies
4. Real Estate Asset Management at the Portfolio Level
    - Asset Liability Management
    - Risk Diversification
    - Tax and Accounting
    - Capital Structure of the Portfolio
    - Servicing and Administration
    - Real Estate Investment Tools
    - Valuation
5. Management of Asset Classes
    - Investor Focus
    - Asset Classes and the Markets in Which They are Traded
    - Asset Allocation
    - Risk Management
    - Regulatory, Legal, and Oversight
    - Benchmarking and Performance Measurement

The Ethical Conduct Content Category plus the nineteen Sub-Content Categories in the four remaining Content Categories comprise the twenty sections (or "Content Sections") of Appendix A of this *Guide*.

5.1 Understanding Appendix A of this *Guide*

Appendix A consists of twenty Content Sections (see section 5.0 above). Each Content Section identifies the:

- Content Category covered in that Content Section of the Appendix
- total number of Tasks in the Content Category,
- sequential list of those Tasks
- level of Cognitive Complexity and any interaction with the ethics domain that a Candidate will use to demonstrate competency and/or ethical conduct in each Task
- sequential list of explanatory references or readings ("Content References") that corresponds to the sequence of Tasks in that Content Section
- total number of Content Reference pages covered in that Content Section
- number of Content Reference pages cited in that Content Section or in a prior Content Section
- number of new Content Reference pages cited for the first time in that Content Section

A Candidate can elect to use Appendix A to:

- identify unfamiliar Content Categories, Sub-Content Categories and Tasks
- read the Content Reference that corresponds to any unfamiliar Task and/or Level of Complexity
- understand that ethical professional conduct is a critical feature of the Level 2 Exam

5.2 Using a Content Reference to Understand a Task

A Content Reference is an optional, supplemental explanation of the content identified in a Task statement and is numbered in the same sequence as its related Task. It consists of at least one, descriptive excerpt from an authoritative source. The purpose of a Content Reference is to provide optional guidance to a Candidate in understanding the knowledge, skill and ethical professional conduct covered by a Task.

There are approximately 800 pages of Content References, or approximately six pages of Content References for each of the 140 Tasks. The CRI Level 2 Exam Content References are contained in a separate compact disc publication, *"CRI Level 2 Exam Content References"*, which the CRI Society supplies to a Candidate upon successful enrollment for the Level 2 Exam.

The multiple Content References for each Task are offered to improve a Candidate's understanding of a Task and of the unique terminology used by the different, real estate industry segments. The Content References are not intended or structured to teach the competency or ethical professional conduct covered by a Task. They do not constitute any education program and are not the sole available route to certification.

Tasks that interact with the ethics domain (i.e., that require ethical professional conduct in addition to a real estate competency) are identified with the phrase "with ethical conduct" at the beginning of the statement.

An asterisk, "*", before a Content Reference indicates that the excerpt was cited in a prior Task in the Appendix A.

The Content References are copyrighted materials and may not be adapted, copied, displayed, distributed, licensed, published, reproduced, scanned, sold, stored, transferred or used, in whole or in part, for any purpose or by any person other than by a person who was authorized in writing by the CRI Society, in its sole discretion.

5.2.1 Time Required to Understand the Content References for a Task

The estimated, average time required to understand the set of Content References cited for a single, unfamiliar Task is a minimum of one (1) hour. The estimated time required to understand all the 140 Tasks, presuming that they were all unfamiliar to a Candidate, is a minimum of 140 hours.

5.3 Understanding the Exam's Composition

The Level 2 Exam is composed of a total of 125 questions (or "Items"). A Candidate's Exam score is based on 100 randomly sequenced Items (the "Scored Items"). An additional 25 randomly sequenced Items (the "Development Exam Items") do not affect the Candidate's score and are spread through the Exam for the purpose of maintaining the validity of the Exam process. A Candidate cannot discern a Scored Item from a Development Exam Item.

Each Item consists of a:

1. set up paragraph(s) (the "Stem")
2. four alternative answers, consisting of:
   a) three incorrect responses (the "Distracters")
   b) one correct answer (the "Key")

The 100 Scored Items consist of:

- 19 at the Recall Cognitive Level
- 31 at the Application Cognitive Level
- 50 at the Analysis Cognitive Level

21 of these 100 Scored Items also interact with the Ethics Domain as discussed in section 4.2.2, above.

5.3.1 Sample Exam Item

Below is a sample Exam Item that is only intended to exhibit the three common elements of an Item. The Item begins with a set-up paragraph[s] (or "Stem") and ends with four alternative responses, three wrong alternatives (or "Distracters") and one correct answer (or "Key").

> Mortgages allow a lender to exercise certain rights and remedies upon a borrower default. Although enforcement may be limited by applicable state law, which of the following lender rights and remedies are typically included in a mortgage?
>
> 1. appointment of a receiver for the mortgaged property
> 2. requirement that rents be paid directly to the lender
> 3. right to immediate possession of the mortgaged property
> 4. right to require the immediate termination of all tenancies
>
> A. 1, 2, and 3 only
> B. 1, 2, and 4 only
> C. 1, 3, and 4 only
> D. 2, 3, and 4 only
> Answer: A

6.0 APPLYING FOR THE CRI® LEVEL 2 EXAM

To apply for the CRI Level 2 Exam, a person (an "Applicant for the Level 2 Exam") must:

- be a CRI Candidate in good standing
- pass the Level 1 Exam no more than two years prior to passing the Level 2 Exam
- pay all the required fees

and

- complete and submit the following forms from Appendix H of the *Guide* :
  1. CRI® Level 2 Exam Application
  2. Chartered Realty Investor® Applicant Disclosure Update
  3. Request for Special Exam Accommodations and Documentation of Disability-Related Needs, if you have a disability covered by the Americans with Disabilities Act

6.1 Remitting the Exam Fees

The Applicant must submit the appropriate, U.S. dollar ("$") denominated fees with the Level 2 application. Payment shall be by Visa, MasterCard or American Express credit card, company check, personal check, cashier's check or money order. Checks and money orders are made payable to "CRI Society". A declined credit card or check returned for insufficient funds or otherwise is subject to a $35 penalty. Repayment of a declined credit card and the penalty must be made with a cashier's check or money order. Applicants are not permitted to take an Exam or complete their enrollment or re-enrollment until all fees have been paid in full.

The CRI Level 2 Exam Fees paid to the CRI Society are:

Candidate Application Processing Fee
($400 shall have been paid with the CRI Level 1 application. There is no Application Processing Fee for the CRI Level 2 Exam.): None

Level 2 Exam Enrollment Fee
includes the cost of the Level 2 enrollment and the latest edition of the Content References to understand the Level 2 Exam Tasks: $795.00

Level 2 Exam Re-Exam Fee
is the cost to retake a "failed" Exam or to reapply for an Exam that a Candidate doesn't to schedule or doesn't report for on time as described in section 7.2: $300.00

The Applicant must be a CRI Candidate in good standing and have paid the one time, non-refundable Level 1 Candidate Application Processing Fee before application for enrollment in the Level 2 Exam.

There are no additional CRI Society costs for study materials or books.

Level 2 Exam applications that are accompanied by the satisfactory payment and are deemed incomplete or otherwise unsatisfactory by the CRI Society will be retained by the CRI Society for a maximum period of 120 days from the date of the CRI Society's receipt of the enrollment or re-enrollment form, pending the Applicant's satisfactory completion of the application and submission of any missing or requested additional information to the CRI Society. If an application is deemed by the CRI Society in its sole discretion to be incomplete or unsatisfactory at the expiration of the 120 days, then $100 of the received payment will be retained by the CRI Society as a non-refundable processing fee, and the remaining payment will be returned promptly to the Applicant.

6.2 Submitting the Exam Enrollment Materials

The Level 2 Exam is administered via computer at AMP Assessment Centers throughout the United States or such other testing site(s) as determined by the CRI Society in its sole discretion. Applications may be submitted throughout the year, and there is no application deadline.

An Applicant, who satisfies all of the requirements in section 6 above, **shall submit all of the section 6 information and documentation in one envelope** to the Chartered Realty Investor Society, P.O. Box 14924, Lenexa, KS 66285-4924 or such other address as determined by the CRI Society**.**

6.3 Statement of Non-Discrimination

Only if all of the section 6 information and documentation, including all applicable fees and forms, and, if required, any other information the CRI Society may request, are complete, legible, truthful and signed, will the CRI Society and the CRI Candidacy and Designations Committee review an Applicant's Level 2 Exam Application and, if applicable, the Applicant's CRI Candidate Application. Upon completion of the review, the CRI Society and the Committee will approve or decline in their sole and final discretion the submitted materials, or request additional information.

The CRI Society and AMP do not discriminate among Candidates based on age, gender, race, color, religion, national origin, disability or marital status.

6.4 Receiving a Confirmation Notice

If the Applicant's Level 2 Exam Application and, if applicable, the CRI Candidate Application is/are approved by the CRI Society and by the CRI Candidacy and Designation Committee, in their sole discretion, then:

- the Level 2 Exam Application is processed
- a notice (the "Confirmation Notice") of eligibility is sent to the Candidate within approximately 30 days

If a Confirmation Notice is not received within 30 days, the Applicant should contact the CRI Society at 913.895.4619 or cris-info@goamp.com. A Confirmation Notice and acceptance of the Level 2 Exam Application is valid for twelve months. A Candidate who fails to take the Level 2 Exam within the twelve-month eligibility period forfeits the Level 2 Exam Application and all fees paid to take the Level 2 Exam. In that event, a completely new Level 2 Exam Application and additional Exam fee are required from an Applicant to reapply for the Level 2 Exam.

The Confirmation Notice contains a toll-free, telephone number and web site address for the Candidate to contact AMP to schedule an appointment for the Level 2 Exam. The Applicant should be prepared to confirm a date and location.

A Confirmation Notice is not a certification of competency or completion. No person shall misrepresent or overstate its significance as anything other than a confirmation that a Candidate may schedule a date to take an Exam.

7.0 ADMINISTERING THE EXAM BY AMP

The CRI Society with the assistance of AMP developed, administers, scores and analyzes the Level 1 and Level 2 Exams.

7.1 Selecting an Exam Location

AMP Assessment Centers are typically located in H&R Block offices. Assessment Center locations, detailed maps and directions are available from **www.goAMP.com.** Specific address information will be provided by AMP when a Candidate schedules an Exam appointment.

7.2 Scheduling an Exam Appointment

Exams are administered by appointment only Monday through Friday at 9:00 a.m. and 1:30 p.m. Persons are scheduled on a first-come, first-served basis. Refer to the chart below.

If you contact AMP by 3:00 p.m. Central Time on…	Your Exam may be scheduled as early as...
Monday	Thursday
Tuesday	Friday
Wednesday	Monday
Thursday	Tuesday
Friday	Wednesday

When you contact AMP to schedule an appointment for the Exam, you will be notified of the time to report to the Assessment Center. Please retain the Confirmation Notice because you will NOT receive an admission ticket. You will only be allowed to take the Exam for which you received a Confirmation Notice; no changes can be made at the Assessment Center. **Unscheduled Candidates ("Walk-ins") are not admitted into the Assessment Center.**

The Level 2 Exam will not be offered on the following holidays:

- Martin Luther King Day
- Presidents' Day
- Good Friday
- Memorial Day
- Independence Day (July 4)
- Labor Day
- Columbus Day
- Veterans' Day
- Thanksgiving (and the following Friday)
- Christmas Eve Day
- Christmas Day
- New Year's Eve Day

A Candidate may reschedule an appointment for the Exam at no charge once by calling AMP at (888) 519-9901 **at least four business days prior to the scheduled testing session**. {see table below}

If the Exam is scheduled on…	AMP must be contacted by 3:00 p.m. Central Time to reschedule the Exam by the previous…
Monday	Tuesday
Tuesday	Wednesday
Wednesday	Thursday
Thursday	Friday
Friday	Monday

A Candidate who wishes to reschedule the Exam but fails to contact AMP at least four business days prior to the scheduled testing session, appears more than 15 minutes late for the Exam and cannot be seated, or fails to report for the Exam appointment forfeits the Application and all fees paid to take the Exam. A complete Application and Re-Exam Fee are required from the Candidate to reapply for the Exam.

7.3 Arranging for Telecommunication Devices for the Deaf

AMP is equipped with Telecommunication Devices for the Deaf (TDD) to assist deaf and hearing-impaired Candidates. TDD calling is available 8:30 a.m. to 5:00 p.m. (CST) Monday-Friday at 913.895.4637. This TDD phone option is for persons equipped with compatible TDD machinery.

7.4 Arranging for Reasonable Accommodations for a Candidate with a Disability

AMP complies with the Americans with Disabilities Act and strives to ensure that no person with a disability is deprived of the opportunity to take the Exam solely because of that disability. AMP will provide reasonable accommodations for Candidates with disabilities. Wheelchair access is available at all established Assessment Centers. Candidates with visual, sensory or physical disabilities that would prevent them from taking the Exam under standard conditions may request special accommodations and arrangements.

To request special accommodations, complete the request for special Exam accommodations form that can be obtained from www.crisociety.org and submit it with your application and fee to the CRI Society at least 45 business days prior to your desired testing date. Please inform AMP of your need for special accommodations when scheduling your Exam.

8.0 ON THE DAY OF THE EXAM

On the day of the testing appointment, report to the Assessment Center no later than your scheduled testing time. Once you enter the center, look for the signs indicating AMP Assessment Center Check-In. **A Candidate who arrives more than 15 minutes after the scheduled testing time will not be admitted.**

To gain admission to the Assessment Center, a Candidate must present two forms of identification, one with a current photograph. Both forms of identification must be current and include the Candidate's current name and signature. The Candidate also will be required to sign a roster for verification of identity.

Acceptable forms of photo identification include: a current driver's license with photograph, a current state identification card with photograph, a current passport, or a current military identification card with photograph. Employment ID cards, student ID cards and any type of temporary identification are not acceptable as the primary form of identification. Candidates are prohibited from misrepresenting their identities or falsifying information to obtain admission to the Assessment Center. **You must have proper identification to gain admission to the Assessment Center.**

Calculations may be required on some Exam Items. Only the use of Hewlett-Packard's HP 10bII, HP-12C and HP-17BII and Texas Instruments' TIBA II, and BA II Plus™ Professional calculators, along with silent, nonprogrammable, solar-powered models without paper-tape printing capability (collectively, a "Permitted Calculator"), are permitted during testing. Calculators will be checked for conformance with this regulation before Candidates are allowed admission to the Assessment Center. Use of a computer is not permitted.

Calculators that do not conform to the specifications outlined above are not permitted in the Assessment Center.

After your identification has been confirmed and your calculator has been checked, you will be directed to a testing carrel. You will be instructed on-screen to enter your Exam registration number. Your photograph will be taken and it will remain onscreen throughout your testing session. This photograph will also be printed on your score report.

8.1 Obeying the Exam Rules

1. No personal belongings (other than Permitted Calculators and those belongings required for medical or personal needs), books, papers, dictionaries or other reference materials may be taken into the Assessment Center. Only a Permitted Calculator {see 8.0, above} may be used during testing. Calculator malfunctions during an Exam do not constitute grounds for challenging Exam scores or requesting additional testing time.
2. No cell phone (or any other communication device), camera (or any other imaging processing device) or mechanical or electronic device, except for Permitted Calculators {see section 8.0, above}, are allowed in the Assessment Center. Excluded devices include but are not limited to telephones, signaling devices (e.g., pagers and alarms), scanners and recorders.
3. No broadcasting, copying, communication, distribution, photographing, recording or transferring of the Exam is permitted. The Exam is the exclusive and confidential property of the CRI Society.
4. No eating, drinking or smoking is permitted in the Assessment Center.
5. No documents, memoranda or notes of any kind are to be taken from the Assessment Center.
6. No questions concerning the content of the Exam may be asked during the Exam. Read all on-screen instructions very carefully.
7. The Assessment Center supervisor's permission is required for a Candidate to leave the room during the Exam. You will not be allowed additional time to make up for time lost.
8. A Candidate may be dismissed from the Exam for misconduct.

Specific examples of misconduct follow:

- The Candidate's admission to the Exam is unauthorized.
- The Candidate creates a disturbance or is abusive or otherwise uncooperative.
- The Candidate uses outside notes, references, unauthorized aids, or an unauthorized calculator or device.
- The Candidate communicates any Exam information to any vendor or other outside entity or person.

Violation of any of the above provisions will result in dismissal from the testing session. The Candidate's score on the Exam will be voided and the Exam fees will be retained by the CRI Society. Evidence of misconduct is reviewed by the CRI Candidate and Designations Committee of the CRI Society to determine whether the Candidate will be allowed to reapply for Exam. If re-examination is granted by the CRI Society, a complete Application and new Re-Exam Fee are required from the Applicant to reapply.

8.2 Security for the Exam

The CRI Society and AMP maintain Exam administration and Exam security standards that are designed to assure that all Candidates are provided the same opportunity to demonstrate their abilities. The Assessment Center is continuously monitored by audio and video surveillance equipment for Exam security purposes.

The Exam is the exclusive and confidential property of the CRI Society and cannot be broadcast, copied, communicated, distributed, photographed, recorded or transferred, in whole or in part, by any Applicant, Candidate, CRI Charter holder, member of the CRI Society, vendor or any outside entity.

8.3 Optional Sample Questions

Before attempting the Exam, you will be given the opportunity to practice taking and answering option questions on the computer. The time you use on any sample question is not counted as part of your Exam time. When you are comfortable with the computer testing process, you may quit this practice session and begin the timed Exam.

8.4 Timed Exam

Following the practice session, you will begin the actual Exam. Before beginning, instructions for taking the Exam are provided on-screen. The Exam contains 125 Exam items. Four hours are allotted to complete the Exam. The following is an explanation of what the computer screen will look like when Candidates are attempting the Exam.

The computer monitors the time you spend on the Exam. The Exam will terminate if you exceed the time limit. You may click on the "Time" button in the lower right portion of the screen or select the "TIME" key to monitor your time. A digital clock indicates the time remaining for you to complete the Exam. The time feature may also be turned off during the Exam.

Only one Exam Item is presented at a time. The Item number appears in the lower right portion of the screen. The entire Exam Item appears on-screen (i.e., stem and four options labeled – A, B, C and D). Indicate your choice by either entering the letter of the option you think is correct (A, B, C or D) or clicking on the option using the mouse. To change your answer, enter a different option by pressing the A, B, C or D key or by clicking on the option using the mouse. You may change your answer as many times as you wish during the testing time limit.

To move to the next Item, click on the forward arrow (>) in the lower right portion of the screen or select the "NEXT" key. This action will move you forward through the Exam Item by Item. If you wish to review any Item or Items, click the backward arrow (<) or use the left arrow key to move backward through the Exam.

An Exam Item may be left unanswered for return later in the testing session. Items may also be bookmarked for later review by clicking in the blank square to the right of the Time button. Click on the hand icon or select the "NEXT" key to advance to the next unanswered or bookmarked Item on the Exam. To identify all unanswered and bookmarked Items, repeatedly click on the hand icon or press the "NEXT" key. When the Exam is completed, the number of Exam Items answered is reported. If not all Items have been answered and there is time remaining, return to the Exam and answer those Items. Be sure to answer each Exam Item before ending the Exam.

All Items on the Exam are worth one point each. Correct responses will be awarded one point. There is no deduction for wrong answers. Thus, there is no penalty for guessing.

Online comments may be provided for any Item by clicking on the button displaying an exclamation point (!) to the left of the Time button. This opens a dialogue box where comments may be entered. Comments will be reviewed, but individual responses will not be provided.

8.5 Inclement Weather or Emergency

In the event of inclement weather or unforeseen emergencies on the day of an Exam, the CRI Society and AMP will determine whether circumstances warrant the cancellation, and subsequent rescheduling, of an Exam. The Exam will usually not be rescheduled if the Assessment Center personnel are able to open the Assessment Center.

Candidates may contact AMP's Weather Hotline at 913.895.4618 (24 hours/day) before the Exam to determine if AMP has been advised that any Assessment Centers are closed. Every attempt is made to administer Exams as scheduled; however, should an Exam be canceled at an Assessment Center, all scheduled Candidates will receive notification following the Exam regarding a rescheduled Exam date or reapplication procedures.

In the event of a personal emergency on the day of Exam, a Candidate may request consideration of rescheduling the Exam without additional fee by contacting the CRI Society in writing within 30 days of the scheduled testing session. A description of the emergency and supporting documentation are required. Rescheduling without additional fee will be considered on a case-by-case basis.

9.0 REPORTING THE EXAM RESULTS AS "PASS" OR "FAIL"

After finishing the Exam, the Candidate is asked to complete a short evaluation of the testing experience. The Candidate is then instructed to report to the Assessment Center's testing supervisor to receive an Exam Score Report and be advised whether or not it is a passing score.

Exam scores are recorded in two forms (as "Raw Scores" and as "Scaled Scores"). A Raw Score is the number of correctly answered Items. A Scaled Score is derived statistically from the Raw Score, ranges between 0 and 99, and determines whether the Candidate passed or failed the Exam.

The minimum Scaled Score to pass the Exam has been set by the CRI Society. The CRI Society uses Scaled Scores because different forms (or versions) of the Exam may vary slightly in difficulty. As new forms of the exam are introduced, some Items in each content area are replaced. These changes may cause one form of the Exam to be slightly easier or more difficult than another form. To adjust for these differences, a procedure (called "Equating") is used. The goal of Equating is to ensure fairness to all Candidates.

In the Equating process, the minimum Raw Score, or number of correctly answered questions, required to equal the passing Scaled Score is adjusted statistically (or "Equated"). For example, if the newest Exam form is determined to be more difficult than the previous form, then the minimum Raw Score required to pass will be slightly lower than the original, passing Raw Score. If the newest Exam form is easier than the previous form, then the minimum Raw Score will be higher. Equating helps to ensure that the passing Scaled Score represents the same level of competence no matter which form of the Exam a Candidate has taken.

In addition to the Candidate's total Scaled Score and the minimum passing Scaled Score, the Raw Scores are reported for each major category of the Exam's Detailed Content Outline. The number of Items answered correctly in each major category is compared with the total number of Items in that category on the Score Report (e.g., 30/40). Content category information is provided to assist Candidates to identify areas of relative strength and weakness. However, passing or failing the Exam is based only on a Candidate's total Scaled Score.

9.1 If You Pass the Level 2 Exam

Passing the Level 2 Exam does not automatically mean that a Candidate is a Member of the CRI Society or a Charter holder. Only if a Candidate:

- satisfactorily registers for and sequentially passes the Level 1 and 2 Exams
- submits a satisfactory Charter holder application to the CRI Society detailing a minimum of three (3) years of qualified work experience and academic requirements as detailed below
- is certified by the CRI Society to have evidenced the competency and ethical professional conduct required by a fiduciary participant in the global, real estate, investment, portfolio decision-making and implementation processes
- is awarded by the CRI Society a limited, revocable right to hold the CRI Charter
- continually satisfies all of the other requirements to continue to hold the CRI Charter, as discussed in section 9.1.2 below (including but not limited to an annual Disclosure Statement and periodic continuing education requirement and, if required by the CRI Society in the future, any recertification requirement)

can a Candidate use the title "Chartered Realty Investor® Charter holder" and "CRI® Charter holder".

There is no separate "Level 1" or "Level 2" certification or designation. There is only one CRI Society certification, the "CRI Charter".

See section 10.1, below, for the discussion on using the CRI Society titles correctly.

A CRI Candidate must satisfy the two following requirements regarding work experience and the academic qualifications to be awarded the CRI Charter:

1. Possess three years of "Qualified Real Estate Experience" by professionally analyzing, financing, managing, marketing, offering, planning, providing, rating, regulating, researching, studying, supporting, teaching or using any capability to service or to work in areas related to real estate on a full-time basis, excluding any summer, part-time or unpaid internship work. Qualified Experience includes but is not limited to:

- a real estate professional working in the area of (1) investment, (2) management or leasing, (3) finance or mortgage lending, (4) construction or development, (5) realty sales or brokerage, (6) urban planning or economics, or (7) securities analysis, brokerage or investment banking

or

- a real estate professional who provides a service to real estate investors, managers, or lenders, including without limitation accountants, analysts, appraisers, architects, due diligence providers (including environmental consultants), engineers, fiduciaries, government regulators, investment bankers, lawyers, mortgage bankers/ brokers/correspondents/underwriters, mortgage insurers, mortgage loan servicers, portfolio managers, property managers, rating agency employees, regulators, software and analytic support providers, surveyors, title insurers, professional and trade association employees, trustees, and urban planners

or

- a teacher, analyst or student at an educational institution or research organization who is teaching, conducting research and analysis, or studying real estate (1) investment, (2) management or leasing, (3) finance or mortgage lending, (4) construction or development, (5) sales or brokerage or (6) urban planning or economics

The information in this section collectively constitutes the "Qualified Real Estate Experience Requirement" and defines a "Qualified Real Estate Professional." The Applicant will satisfy this requirement by submitting to the CRI Society:

- names and addresses of the Applicant's employers and supervisors
- dates of Applicant's employment
- a written description of the Applicant's work experience, duties, non-academic degree education and professional training
- written authorization and instruction to each named employer to provide directly to the CRI Society a written verification of the Applicant's employment
- written verification regarding the Applicant's professional experience from each of the Applicant's named employers
- complete resume detailing the Applicant's experience, education and training

and

2. Satisfy either the:
   - "**Academic Requirement**" by holding a bachelor's degree from a U.S. accredited college or university, or an equivalent non-US degree and by submitting to the CRI Society either a:
     (1) transcript or other official document from the college or university that awarded the Applicant the qualifying bachelor's degree
     and
     (2) written authorization that enables the CRI Society to verify the transcript or other documentation
     or
   - "**Academic Waiver Requirement**" by possessing six years (which includes the three years required in this above) of:
     (1) qualified real estate experience and by submitting to the CRI Society the supporting information and documentation listed in this section, above
     or
     (2) a combination of college or university credits and of Qualified Real Estate Experience that is satisfactory to the CRI Society in its sole discretion, and by applying to the CRI Society's Candidacy and Designations Committee for a waiver of the Academic Requirement. The waiver request must include the supporting information and documentation as listed in this section, above

9.1.1 Recognizing a Candidate that Passes

The CRI Society reserves the right to recognize publicly any Candidate who has successfully completed both Exams, satisfied all the other requirements to hold a CRI Charter and been awarded the certification designation by the CRI Society. This recognition will seek to avoid embarrassing any Candidate who is unsuccessful in their attempt to achieve certification.

9.1.2 Continuing Requirements to Hold the CRI Charter

The CRI Society awards a limited, revocable right to hold the CRI Charter to a person who has satisfied and continually complies with all the requirements of the certification. The continuing requirements to hold the CRI Charter apply to every CRI Charter holder and include:

- compliance with the definition of a CRI Charter holder not only at the time of initial certification but throughout a Charter holder's professional career
- prompt payment of all CRI Society dues, fees, and expenses
- annual, or more frequently as a Charter holder's circumstances require, certification of ethical professional conduct by promptly completing, executing and submitting a satisfactory Disclosure Statement, which is displayed in Appendix H of the Level 2 *Guide*
- prompt delivery to the CRI Society of a current Disclosure Statement if (i) there is any change to any answer or address information in the Conduct Agreement and (ii) an annual Disclosure Statement has not been filed previously by the Charter holder
- prompt delivery to the CRI Society of an updated Disclosure Statement if there is any change to any answer or address information in the last filed Disclosure Statement
- periodic satisfaction of a continuing education requirement (which program is under development by the CRI Society) consisting of an applied academically rigorous curriculum that evidences contemporary mastery of a service professional's fiduciary participation in the global, real estate, investment decision making and implementation activities of the portfolio management process
- recertification (which program is not currently under development by the CRI Society) if required by the CRI Society. The CRI Society reserves the right to develop and institute a recertification program in its sole discretion.

A CRI Charter holder has not permanently earned the CRI Charter and does not own any rights in the CRI Charter.

9.2 If You Do Not Pass the Level 2 Exam

If a Candidate does not pass the Level 2 Exam, after a thirty (30) day delay, then the Candidate:

- may repeat the Exam by submitting a new Application form and the appropriate fee to the CRI Society
- cannot use the incorrect title "a Level 1 CRI", or any variation thereof
- may only say, if truthful, that he/she "has passed the CRI Level 1 Exam" and, if he/she holds a valid Level 2 Exam Confirmation Notice, that he/she "is a Candidate for the Level 2 Exam"

There is no separate "Level 1" or "Level 2" certification or designation. There is only one CRI Society certification, the "CRI Charter". No person shall misrepresent the significance of passing a Level 1 Exam and failing a Level 2 Exam.

9.3 Scores Canceled by the CRI Society or AMP

The CRI Society and AMP are responsible for the integrity of the scores they report. On occasion, occurrences, such as computer malfunction or misconduct by a Candidate, may cause a score or scores to be suspect. The CRI Society and AMP are committed to rectifying such discrepancies as expeditiously as possible.

The CRI Society can void any Exam results if, upon investigation, any violation of its regulations or standards of ethical conduct is discovered.

9.4 Appeals

A Candidate who believes he/she was unjustly denied eligibility for Exam, challenges results of an Exam or believes he/she was unjustly denied renewal of certification may request reconsideration of the decision by submitting a written appeal to the CRI Candidate and Designations Committee. The Candidate for certification or renewal of certification must provide satisfactory, convincing evidence that a severe disadvantage was afforded the Candidate during processing of an application for Exam or renewal of certification or before or during administration of an Exam. The appeal must be made within 45 days of receipt of a Score Report or any other official correspondence related to certification or renewal of certification from the CRI Society. The written appeal must also indicate the specific relief requested. The appealing Candidate is required to submit a $100 fee with the written appeal. The fee will be refunded to the Candidate if deemed justified through action of the CRI Candidate and Designations Committee in its sole discretion.

9.5 Duplicate Score Report

Candidates may purchase additional copies of their Score Reports at a cost of $25 per copy. Requests must be submitted to AMP, in writing, within 12 months after the Exam. The request must include the Candidate's name, Exam Candidate Number, mailing address, telephone number, date of Exam and Exam taken. This information is submitted with a check or money order made payable to AMP for this amount with your request. Duplicate score reports will be mailed within approximately two weeks after receipt of the request.

9.6 Confidentiality

An Applicant's or Candidate's, as applicable, Exam registration data and a Candidate's certification renewal information and Exam results are confidential; however, the CRI Society reserves the right to use information supplied by or on behalf of an Applicant or Candidate in the conduct of research. Studies and reports concerning Candidates will contain no information identifiable with any Candidate, unless authorized by the Candidate.

9.6.1 Licensing the CRI Candidate Mailing List to a Review Course Vendor

After receiving a Candidate's prior written authorization, the CRI Society can report the Candidate's name, designated mailing address, e-mail address and next required Exam or CRI test to any vendor of a review or preparation course for an Exam and any other CRI test that satisfies the CRI Society's requirements for licensing and using the CRI Society's mailing list and trademarks. {see section 10.2, below}

The *Guide* cites and/or contains copyright readings and protected proprietary materials of the volunteer contributors.

The CRI Society does not accredit, certify, endorse, promote, require or warrant the accuracy, completeness or truthfulness of any product or service offered by any vendor and does not verify, or endorse, any pass rate claimed by any vendor. The CRI Society is not responsible for the accreditation of any educational or training program or course of study leading to the award of the limited, revocable right to hold the CRI Charter.

10.0 CRI SOCIETY TRADEMARKS

The CRI Society reserves all rights, including common law and statutory rights of trademarks, certification marks, trade secrets and copyrights to its marks. Its registered marks are Chartered Realty Investor®, CRI® and the CRI logo (collectively, the "Marks"). The superscript version of the trademark registration symbol (**®**) must appear after the first use and after each prominent use (i.e., when a Licensed Mark is displayed in a larger font or used as a section heading). The CRI and Chartered Realty Investor Marks are used without the trademark registration symbol only when they follow the name of an active CRI® Charter holder, as in the titles: "A. Smith, CRI", or "A. Smith, Chartered Realty Investor". Contact the CRI Society for complete information on the Marks.

A CRI Charter holder has not permanently earned a CRI Charter and does not own any rights in a CRI Charter.

10.1 Using the CRI Society Titles Correctly

"CRI®" and "Chartered Realty Investor®" **are capital-sensitive, proper adjectives that only modify a proper noun** (e.g., a CRI® Charter holder; the CRI® Charter; a CRI® Exam; the CRI® Society; a Chartered Realty Investor® Charter holder; the Chartered Realty Investor® Charter).

It is correct to say:

- B. Smith, CRI, is an equity real estate investor.
- B. Smith, Chartered Realty Investor, is a mortgage banker.
- C. Smith is a holder of the right to use the CRI Charter. *{note: C. Smith is an active Charter holder}*
- C. Smith is a holder of the limited, revocable right to use the Chartered Realty Investor Charter holder designation. *{note: C. Smith is an active Charter holder}*
- CRI® and Chartered Realty Investor® are registered trademarks of the CRI Society.
- All of the executive officers hold the CRI® Charter. *{note: The names of these active Charter holders are missing.}*

It is wrong to say:

- The person is a Chartered Realty Investor®.
- The promoted employee is a CRI®.
- D. Smith, cri® is the new manager.
- D. Smith, chartered realty investor®, was hired.

It is also wrong to say, "I/He/She earned a CRI Charter", because a CRI Charter holder has not earned a CRI Charter and does not own any rights in a CRI Charter. Upon termination of a Charter, the former Charter holder must disclose fully, if he/she makes any reference to the award of the Charter, that his/her Charter was terminated by the CRI Society.

"CRI®" and "Chartered Realty Investor®" are used only in the singular and shall not be used in the plural, as a possessive or in a Charter holder's company domain name.

It is wrong to say:

- The firm has two Chartered Realty Investors®.
- They are CRIs®.
- We use a CRI's® approach to investing.
- E. Smith, Inc., Chartered Realty Investor®.
- E. Smith, ltd., CRI®.

See section 9.1, above, for a discussion of the proper conduct if you pass the Level 2 Exam and section 1.1, above for a discussion of a CRI Charter holder's conduct.

10.2 Licensing the Trademarks to a Review Course Vendor

The CRI Society may grant to a satisfactory review course vendor (the "Licensee") only a limited, personal, non-transferable, non-exclusive license (the "License") to use only the CRI Society's trademarks solely for the purpose of identifying the Licensee's CRI review course materials.

The *Guide* cites and/or contains copyright readings and protected proprietary materials of the volunteer contributors.

The CRI Society is not responsible for the accreditation of any educational or training program or course of study leading to the award of the limited, revocable right to hold the CRI Charter and does not:

- **accredit, certify, endorse, promote, require or warrant the accuracy, completeness or truthfulness of any product or service offered by any vendor**
- **accredit, certify, endorse, promote, warrant or verify any pass rate claimed by any vendor, or**
- **deliver or communicate any Exam information to any vendor or other outside entity, except for the same information it provides to a Candidate.**

APPENDIX A
CRI Level 2 Exam Content References

The information contained, cited or referenced herein does not constitute any investment, legal or tax advice, is solely for the purpose of understanding the Tasks covered by the Level 2 Exam and is not comprehensive. In all events, one should seek independent, qualified counsel. The citations, links and pointers that connect with web sites and other sources are provided by the CRI Society as a courtesy. The CRI Society assumes no responsibility or liability for such other sites' content, accuracy, or compliance with applicable law. Copyrighted and proprietary contributor materials are cited and contained herein.

Appendix A consists of twenty (20) Content Sections that contain the Ethical Conduct Content Category plus the nineteen Sub-Content Categories that are covered by the CRI Level 2 Exam {see section 5.0, above}. Collectively, these Content Sections serve as an index to assist the Candidate in identifying a Task that may be unfamiliar. Each Content Section will identify: a) the weighting of the Level 2 Exam Items for each Sub-Content Category, b) the required Recall, Application or Analysis cognitive level of understanding, c) the required Tasks, d) any interaction with the ethics domain, and e) a corresponding list of related readings, or Content References, that explain the nature of each Task {see section 5.2, above}.

Twelve (12) of the total, one hundred and forty (140) Tasks covered by the Level 2 Exam relate to Ethical Conduct and are described in Appendix A, Content Section 1, Ethical Conduct. Twenty-one percent (21%) of the total, one hundred (100) Scored Items in the Level 2 Exam relate to Ethical Conduct and are interwoven with the other Tasks identified in Appendix A, Content Sections 2 through 20. There are no Exam Items that only test Ethical Conduct.

The Content References are contained in a compact disc, the *"CRI Level 2 Exam Content References",* that the CRI Society supplies to a Candidate upon successful enrollment for the Level 2 Exam.

In addition to Appendix A and the *"CRI Level 2 Exam Content References",* Appendix B, C and D assist in understanding some of the professional Tasks that are in Appendix A and that may occur in the Level 2 Exam.

Appendix A, Content Section 1: Ethical Conduct

21% of the content area of the Exam

Score Items that interact with the Ethics Domain can require the Recall, Application, or Analysis Cognitive Level of Understanding

Tasks include:

1. Recall and apply the definition of a Chartered Realty Investor Charter holder ("CRI Charter holder").
2. Analyze ethical conduct in the real estate, investment decision-making and implementation process.
3. Analyze the responsibilities of a fiduciary.
4. Analyze the responsibilities of a prudent expert.
5. Analyze knowledge of and compliance with applicable laws, rules, regulations, and standards of conduct.
6. Analyze fair dealing in a market or market place.
7. Analyze relevant competence.
8. Analyze independence and objectivity in judgment.
9. Analyze the confidentiality of client materials.
10. Analyze the protection of material, non-public, investment information.
11. Analyze the full disclosure of conflicts of interest.
12. Analyze the reasonable basis and adequacy of supporting information for recommendations in research reports and financial analyses.

Content References: total pages: **59** * previously cited: **0** total new pages: **59**

1. "Definition of a Chartered Realty Investor® Charter holder ('CRI® Charter holder')", *CRI® Level 2 Exam Review Guide* (Chartered Realty Investor Society, 2006)

2.a) "Standards of Professional Conduct: Standards I.B, II.B.1, II.C, III, IV and V", *Standards of Practice Handbook*, 8th edition, pp. 2-7 (CFA Institute®, 1999, ISBN 0-935015-39-6)

2.b) "Fiduciary Duty", *Standards of Practice Handbook*, 8th edition, pp. 209-215 (CFA Institute®, 1999, ISBN 0-935015-39-6)

2.c) "Fiduciary Duty", *Standards of Practice Handbook*, 8th edition, pp. 219-220 (CFA Institute 1999, ISBN 0-935015-39-6)

2.d) "Insider Trading" and "Personal Investing", *Standards of Practice Handbook*, 8th edition, pp. 223-243 (CFA Institute 1999, ISBN 0-935015-39-6)

2.e) "Standard III(C) - Disclosure of Conflicts to Employer", *Standards of Practice Handbook*, 8th edition, pp. 51, 52, 54 (CFA Institute 1999, ISBN 0-935015-39-6)

2.f) "Standard IV(B.6) – Prohibition against Misrepresentation" and "Standard IV(B.7) – Disclosure of Conflicts to Clients and Prospects", *Standards of Practice Handbook*, 8th edition, pp. 131-137 (CFA Institute 1999, ISBN 0-935015-39-6)

2.g) "Standard IV(A.1) – Reasonable Basis and Representations", *Standards of Practice Handbook*, 8th edition, pp. 65-67 (CFA Institute 1999, ISBN 0-935015-39-6)

2.h) "Standard IV(B.4) – Priority of Transactions", *Standards of Practice Handbook*, 8th edition, pp. 119-125 (CFA Institute 1999, ISBN 0-935015-39-6)

2.i) "Standard III(B) - Duty to Employer", *"Standards of Practice Handbook"*, 8th edition, pp. 43, 44 (CFA Institute 1999, ISBN 0-935015-39-6)

2.j) * "Definition of a Chartered Realty Investor® Charter holder. See Content Reference 1, above.

2.j) * "Definition of a Chartered Realty Investor® Charter holder. See Content Reference 1, above.

3.a) * "Fiduciary Duty". See Content Reference 2.b), above.

3.b) * "Fiduciary Duty". See Content Reference 2.c), above.

3.c) * "Priority of Transactions". See Content Reference 2.h), above.

(Appendix A, Content Section 1 continued)

3.d) * "Duty to Employer". Content Reference 2,i) above.

3.e) * "Definition of a 'CRI® Charter holder', See Content Reference 1, above.

4.a) * "Prudent Expert Rule", p. 213. See Content Reference 2.b), above.

4.b). * "Definition of a 'CRI® Charter holder', See Content Reference 1, above.

5.a). * "ERISA", See Content Reference 2.c), above.

5.b). * "Definition of a 'CRI® Charter holder', See Content Reference 1, above.

6.a). * "Fair Dealing", p.5. See Content Reference 2.a), above.

6.b) * "Definition of a 'CRI® Charter holder', See Content Reference 1, above.

7.a). * "Professional Misconduct – competence", p. 2. See Content Reference 2.a), above.

7.b). * "Definition of a 'CRI® Charter holder', See Content Reference 1, above.

8.a) * "Independence and Objectivity", p. 4. See Content Reference 2.a) above.

8.b) * "Definition of a 'CRI® Charter holder', See Content Reference 1, above.

9.a) * "Preservation of Confidentiality", p. 6. See Content Reference 2.a), above.

9.b). * "Insider Trading", pp. 223 – 236. See Content Reference 2.d), above.

9.c). * "Definition of a 'CRI® Charter holder', See Content Reference 1, above.

10.a) * "Insider Trading", pp. 223 – 236. See Content Reference 2.d), above.

10.b). * "Definition of a 'CRI® Charter holder', See Content Reference 1, above.

11.a). * "Disclosure of Conflicts to Employer". See Content Reference 2.e), above.

11.b) * "Disclosure of Conflicts to Clients and Prospects", pp. 135 – 137. See Content Reference 2.f), above.

11.c) * "Definition of a 'CRI® Charter holder', See Content Reference 1, above.

12.a) * "Reasonable Basis and Representations". See Content Reference 2.g), above.

12.b) * "Definition of a 'CRI® Charter holder', See Content Reference 1, above.

End of Appendix A, Content Section 1

Appendix A, Content Section 2: Fixed Income Securities, Capital Market Instruments

16% of the content area of the Exam

Recall Items	6
Application Items	6
Analysis Items	4
Ethics Domain interaction	1

Tasks include:

1. Recall the description of
   a) collateralized bond obligation,
   b) collateralized debt obligation, and
   c) whole loan and
2. Recall with ethical conduct the description of a second mortgage.
3. Apply with ethical conduct the description of structured transactions.
4. Recall the explanation of the REMIC and FASIT requirements regarding real estate investments.
5. Apply with ethical conduct the advantages of REMICs and FASITs (e.g., double-taxation, debt treatment, tax structuring flexibility, default penalties).
6. Recall how loans are held by a REMIC or FASIT.
7. Analyze with ethical conduct how principal and interest payments are split among CMBS security holders.
8. Apply with ethical conduct the identification of trustees and those servicing the CMBS who act to protect investors' collateral and interests.
9. Analyze with ethical conduct the relationship of the CMBS
   a) interest paid to investors to the coupon rate of the mortgages contained within a CMBS and the amount paid to the trustee, and
   b) interest rate fluctuations to interest-only tranche values.
10. Recall the list of common agencies that rate CMBS.
11. Recall the description of the sources of debt capital from:
    a) life insurance companies,
    b) banks and thrifts,
    c) pension funds,
    d) credit companies,
    e) REIT debt,
    f) investment banks and
    g) foreign capital.
12. Apply with ethical conduct the explanation of the Freddie Mac programs' loan requirements (e.g., LTV, DCR) and how they are satisfied.
13. Recall the Freddie Mac programs' lock-out and prepayment step-down terms for a loan.
14. Apply the Freddie Mac programs options regarding loan maturities and amortization of principal/interest.
15. Apply a comparison of the Freddie Mac programs' standard delivery and early rate lock options.
16. Apply with ethical conduct the explanation of the Fannie Mae multifamily loan requirements (e.g., LTV, DCR) and how they are satisfied.
17. Apply a summary of the Fannie Mae multifamily loan options for conventional mortgages, second mortgages and refinancing.
18. Apply with ethical conduct a summary of the Fannie Mae multifamily loan options for:
    a) fixed and variable interest rates and
    B) fully amortizing, interest-only, balloons.
19. Recall a summary of the Fannie Mae multifamily loan options for construction/permanent loans.
20. Apply with ethical conduct the explanation of how HUD policy affects multifamily markets.
21. Analyze with ethical conduct the comparison and contrasting of the key characteristics of debt instruments.
22. Analyze with ethical conduct the implementation of the optimal debt structure.
23. Analyze with ethical conduct the performance effects of fixed income securities' actions.

Content References: total pages: **101** * previously cited: **0** total new pages: **101**

(Appendix A, Content Section 2 continued)

1.a) "Glossary"- Collateralized Bond Obligation", *Collateralized Debt Obligations: Structures and Strategies*, 1st edition, Brian P. Lancaster and Yu-Ming Wang, pp. 199 (Wachovia Securities, Inc., 2003)

1.b) "Collateralized Debt Obligations (CDOs)", *Collateralized Debt Obligations: Structures and Strategies*, 1st edition, Brian P. Lancaster and Yu-Ming Wang, pp. 10 - 15 (Wachovia Securities, Inc., 2003)

"What is a CDO (versus CMBS)?", *CMSA 301d – Deconstructing & Analyzing CDOs*, Bob Ricci, pp. 2-6 (Wachovia Securities, Inc.; June 9, 2004)

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End of Appendix A, Content Section 2

Appendix A, Content Section 3: Equity, Capital Market Instruments

5% of the content area of the Exam

Recall Items	0
Application Items	1
Analysis Items	4
Ethical Conduct interaction	2

Tasks include:

1. Analyze with ethical conduct the description of equity sources in the capital market.
2. Analyze with ethical conduct the differentiation among various equity structures (e.g., LLC, partnerships, corporations, joint ventures).
3. Analyze with ethical conduct the comparison and contrasting of the tax implications of equity structures.
4. Analyze with ethical conduct the recommendation of an optimal equity/debt structure.
5. Analyze with ethical conduct the implementation of an equity/debt structure.

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End of Appendix A, Content Section 3

Appendix A, Content Section 4: Hybrid & Miscellaneous, Capital Market Instruments

2% of the content area of the Exam.

Recall Items	0
Application Items	1
Analysis Items	1
Ethical Conduct interaction	1

Tasks include:

1. Apply a description of the characteristics of TIFs, tax credits, environmental credits, mezzanine debt and preferred equity capital market instruments.
2. Analyze with ethical conduct the applications of hybrid instruments.
3. Analyze with ethical conduct the characteristics of sale leaseback, credit tenant leases, synthetic leases and Rule 144A capital market instruments.

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End of Appendix A, Content Section 4

Appendix A, Content Section 5: Protecting Value for the Debt Investor by Real Estate Asset Management at the Individual Property Level

12% of the content area of the Exam.

Recall Items	3
Application Items	5
Analysis Items	4
Ethical Conduct interaction	1

Tasks include:

1. Analyze with ethical conduct the action steps in the loan collection process.
2. Recall the identity of the primary insurance types and standard investor requirements.
3. Recall with ethical conduct the explanation of the key components of a property and market inspection report.
4. Recall the explanation of the impact on mortgages with recorded property tax, IRS, and mechanics liens.
5. Analyze with ethical conduct the basic financial factors used in the analysis of property performance.
6. Apply with ethical conduct the important information required for a property transfer request.
7. Analyze with ethical conduct the components of risk in a partial release or easement action.
8. Apply with ethical conduct the strategies to detect potential mortgage defaults.
9. Analyze with ethical conduct the advantages and disadvantages of restructuring a loan versus foreclosure.
10. Apply with ethical conduct the primary and alternative methods of foreclosure.
11. Apply with ethical conduct the tax impact of foreclosure, debt forgiveness and deed-in-lieu.
12. Analyze with ethical conduct the key components and risks of a workout program from the lender's and borrower's perspectives.

Content References: total pages: **71** * previously cited: **0** total new pages: **71**

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8. "Transaction Monitoring: III. Large Loan CMBS – 280 Park Avenue", *Transforming Real Estate Finance - A CMBS Primer*, 4th edition, Howard Esaki, M. Jan de Beur, M. Goldman, pp. 241-243 (Morgan Stanley, 2004)

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End of Appendix A, Content Section 5

Appendix A, Content Section 6: Maximizing Total Return for the Equity Investor by Real Estate Asset Management at the Individual Property Level

8% of the content area of the Exam.

Recall Items	0
Application Items	2
Analysis Items	6
Ethical Conduct interaction	1

Tasks include:

1. Analyze with ethical conduct how a property fits with the long-term strategic plan to maximize total return for the equity investor.
2. Analyze with ethical conduct the determination of the buy, sell, hold and refinance property change options to maximize total return for the equity investor.
3. Apply with ethical conduct capital resources that can be applied to the property to maximize the total return for the equity investor.
4. Apply with ethical conduct an assessment of a capital budget and authority levels to maximize total return for the equity investor.
5. Analyze with ethical conduct the lower priority leases for possible replacement to maximize total return for the equity investor.
6. Analyze with ethical conduct the high priority leases for possible action (e.g., renewal, expansion or replacement) to maximize total return for the equity investor.
7. Analyze with ethical conduct the optimal timing of action strategies to maximize total return for the equity investor.
8. Analyze with ethical conduct the timing and type of financing options to maximize total return for the equity investor.

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End of Appendix A, Content Section 6

Appendix A, Content Section 7: Preparing for Contingencies by Real Estate Asset Management at the Individual Property Level

5% of the content area of the Exam.

Recall Items	0
Application Items	1
Analysis Items	4
Ethical Conduct interaction	1

Tasks include:

1. Analyze with ethical conduct the alternative courses of actions to protect and maximize value.
2. Analyze with ethical conduct the development of exit strategies.
3. Analyze with ethical conduct the creation of strategies to mitigate catastrophic events.
4. Apply with ethical conduct a reevaluation of the best-of-class resources in the local market.
5. Analyze with ethical conduct the execution of the action plan.

Content References: total pages: **36** * previously cited: **9** total new pages: **27**

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   Appendix D: § 3.2.1. "Financial Risks – Credit Risk;", "The Credit Risk in an…Interest Rate Swap is typically zero at the inception…greatest at the middle…and decreases as the expiration…approaches"; § 4.1.2. "OTC Market"; § 4.2.2. "Swaps", "Interest Rate Swaps", "Plain Vanilla Interest Rate Swap"; § 5.1. "Definitions of Other Price and Value Terms – Swap Market Value"; § 7.1.1. "Use Interest Rate Swap to change Floating-rate to Fixed-rate Debt"; § 8. "Supplemental Information on Derivatives". The Chartered Realty Investor Society.

2. "Developing a Portfolio Strategy – The Importance of Exit Strategies", *The Handbook for Real Estate Portfolio Management*, J.L. Pagliari, pp. 983, 984 (Richard D. Irwin, Inc., 1996, ISBN 1-55623-539-9)

   "Macroeconomic Factors Affecting Real Estate", "Microeconomic Factors Affecting Real Estate", "Real Estate Valuation Considerations: Figure 6-8", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 6-53 thru 6-55, (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5)

   * "Calculating Asset Returns", "Total Return", "Net Return", "Standard Deviation" and "Inflation Adjustment", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 2-5 thru 2-8 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5) See Content Section 5, Content Reference 5.

   Appendix B: "Geometric Return, Geometric Mean Return (GMR) or Time Weighted Return". The Chartered Realty Investor Society.

3. * Appendix D: § 3.2.1. "Financial Risks – Credit Risk;", "The Credit Risk in an…Interest Rate Swap is typically zero at the inception…greatest at the middle…and decreases as the expiration…approaches"; § 4.1.2. "OTC Market"; § 4.2.2. "Swaps", "Interest Rate Swaps", "Plain Vanilla Interest Rate Swap"; § 5.1. "Definitions of Other Price and Value Terms – Swap Market Value"; § 7.1.1. "Use Interest Rate Swap to change Floating-rate to Fixed-rate Debt"; § 8. "Supplemental Information on Derivatives". The Chartered Realty Investor Society.

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4. "Figure 1-1 The Portfolio Construction, Monitoring and Revision Process", "The Dynamics of the Process" and "Evaluation of Real Estate Strategies", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 1-4, 1-5, 14-47 and 14-48 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5)

5. "Factors Suggesting Portfolio Rebalancing", "Changes Affecting the Client" and "Inflation Rate Changes", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 13-4, 13-5 and 13-11(Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5)

* "Modified Duration versus Effective Duration", "Macaulay Duration and Modified Duration", and "Interpretations of Duration", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 262-265 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X) See Content Section 2, Content Reference 9.b).

End of Appendix A, Content Section 7

Appendix A, Content Section 8: Asset Liability Management within Real Estate Asset Management at the Portfolio Level

5% of the content area of the Exam.

Recall Items	1
Application Items	1
Analysis Items	3
Ethical Conduct interaction	1

Tasks include:

1. Analyze with ethical conduct the determination of optimal sources and type of capital (e.g., fixed/floating, debt/mezzanine/equity).
2. Recall the identifying characteristics of the source of capital (e.g., debt, equity, hybrid).
3. Apply the determination of durations of assets and liabilities.
4. Analyze with ethical conduct the management of the match or mismatch of assets and liabilities.
5. Analyze with ethical conduct the determination and management of the characteristics of cash flows.

Content References: total pages: **54** * previously cited: **27** total new pages: **27**

1. "Mechanics of the Fixed-Rate Mortgage" and "Floaters and Inverse Floaters", *Real Estate Finance, Theory & Practice,* 3rd edition, Terrence M. Clauretie and G. Stacy Sirmans, pp. 48, 49, 245, 246 (South-Western Publishing/Thomson Learning, 1999, ISBN 0-324-13982-9)

   * "Glossary - Mezzanine Debt", *Transforming Real Estate Finance*, 4th edition, Howard Esaki, M. Jan de Beur, Masumi Goldman, p. 333 (Morgan Stanley, 2004) See Content Section 2, Content Reference 2.

   * "Equity-Participation Loans", "Joint Venture" and Glossary, *Real Estate Finance, Theory & Practice*, 3rd edition, Terrence M. Clauretie and G. Stacy Sirmans, pp. 399-401, 559 (South-Western Publishing/Thomson Learning, 1999, ISBN 0-324-13982-9) See Content Section 4, Content Reference 1.

2. "Leveraged Buyouts (LBO)", *Fundamentals of Corporate Finance*, 2nd edition, Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan, p. 757 (Richard D. Irwin, Inc., 1992 and 1993, ISBN 0-256-11113-8)

   "Reverse Annuity Mortgage" and "Wrap Loan", *Real Estate Finance, Theory & Practice,* 3rd edition, Terrence M. Clauretie and G. Stacy Sirmans, pp. 113, 114, 134 (South-Western Publishing/Thomson Learning, 1999, ISBN 0-324-13982-9)

   * "Mortgage Loans", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 73–76 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X) See Content Section 2, Content Reference 1.c).

   * "Equity Participation Mortgage" and "Equity Joint Venture" and Glossary, *Real Estate Finance, Theory & Practice*, 3rd edition, Terrence M. Clauretie and G. Stacy Sirmans, pp. 399-401 and 559 (South-Western Publishing/Thomson Learning, 1999, ISBN 0-324-13982-9) See Content Section 4, Content Reference 1.

   * "Glossary - Mezzanine Debt", *Transforming Real Estate Finance*, 4th edition, Howard Esaki, M. Jan de Beur, Masumi Goldman, p. 333 (Morgan Stanley, 2004) See Content Reference 1, above, and Content Section 2, Content Reference 2.

3. "Calculating Duration" and "Approximating the Percentage Price Change Using Duration", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 255-258 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X)

   * "Modified Duration versus Effective Duration", "Macaulay Duration and Modified Duration", and "Interpretations of Duration", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 262-265 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X) See Content Section 2, Content Reference 9.b).

4. "Specialized Strategies – Duration, Bulk Purchase", *The Handbook of Real Estate Portfolio Management*, J. Pagliari, pp. 992-993 (The McGraw-Hill Companies, 2001, ISBN 0-07-255578-5)

(Appendix A, Content Section 8 continued)

* “Duration Strategy”, “Exhibit 2-14 Duration Comparison of Two Identical Buildings”,, *The Handbook of Real Estate Portfolio Management*, J. Pagliari, pp. 152-156 (The McGraw-Hill Companies, 2001, ISBN 0-07-255578-5) See Content Section 6, Content Reference 7.

* “Modified Duration versus Effective Duration”, “Macaulay Duration and Modified Duration”, and “Interpretations of Duration”, *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 262-265 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X) See Content Reference 3, above, and Content Section 2, Content Reference 9.b).

5. “Mortgage Pass-Through Securities”, “Bond-Equivalent Yield”, “Exhibit 10 Price/Yield Relationship for a Callable and an Option-Free Bond”, “Positive and Negative Convexity”, “Weighted Average Coupon (WAC)”, *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 76-78, 197, 198, 252-255, 267-269, and 394 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X)

End of Appendix A, Content Section 8

Appendix A, Content Section 9: Risk Diversification (e.g., geographic, property type, tenants) within Real Estate Asset Management at the Portfolio Level

3% of the content area of the Exam.

Recall Items	0
Application Items	0
Analysis Items	3
Ethical Conduct interaction	1

Tasks include:

1. Analyze with ethical conduct the determination of the appropriate portfolio stratification and diversification strategy.
2. Analyze with ethical conduct the evaluation of portfolio stratification.
3. Analyze with ethical conduct the action taken when there are variances from the targeted, risk diversification strategy.

Content References: total pages: **13** * previously cited: **7** total new pages: **18**

1. "Q3:12 What is correlation?" and "Q3:13 Why is correlation important?", "Table 3-2…Correlations of…Asset Classes", "Figure 3-2 Portfolio Standard Deviation as a Function of Correlation; Correlation=1; Correlation=0", *Pension Investment Handbook*, Mark W. Riepe and S.L. Lummer, pp. 3-14 thru 3-16 (Panel/Aspen Publishers, Inc., 1996, ISBN 1-56706-145-1)

   * "Q6:26 What are systematic risks?", "Q6:27 What are unsystematic risks?", "Q6:28 What are the steps involved in managing a real estate portfolio?", "Figure 6-8 Reduction Through Portfolio Diversification", and"Q6:27 What are unsystematic risks? Figure 6-8 Reduction Through Portfolio Diversification", *Pension Investment Handbook*, Mark W. Riepe and Scott L. Lummer, pp. 6-36 and 6-37 (Panel/Aspen Publishers, Inc., 1996, ISBN 1-56706-145-1) See Content Section 2, Content Reference 23.

2. "Volatility of Returns – Expected Return E(R), Variance σ^2, Standard Deviation σ, Normal Bell-Shaped Curve", *The Handbook of Real Estate Portfolio Management*, Joseph Pagliari, pp. 120, 121 (The McGraw-Hill Companies, 1995, ISBN 1-55623-539-9)

3. "Calculating Expected Rates of Return, E(Ri) – Risk", "Measuring the Risk of Expected Rates of Return – Variance (σ2), Possible Return,, Standard Deviation (σ), Coefficient of Variation (CV)", Measure of Relative Variability..[versus].Absolute Measures of Risk, "Holding Period Yield", "Determining Required Rates of Return", "Computation of Variance and Standard Deviation", "EMH (Efficient Market Hypothesis) – divided into three segments", *Investment Analysis and Portfolio Management*, 5th edition, Frank K. Reilly and K.C. Brown, p. 11-16, 31-33, 247-250 (South-Western Publishing/Thomson Learning, 1997, ISBN 0-03-018683-8).

   * "Computing Mean Historical Returns – Arithmetic Mean Rate of Return, Geometric Mean Rate of Return, Table 1.1: Computation of Holding Period Yield (HPY) for a Portfolio", *Investment Analysis and Portfolio Management*, 5th edition, Frank K. Reilly and K.C. Brown, p. 10 (South-Western Publishing/Thomson Learning, 1997, ISBN 0-03-018683-8) See Content Section 5, Content Reference 5.

   * "Real Estate Style Today - Investor/Consultant Definitions: Core, Value Added, Opportunistic", *Real Estate Investment Styles: Trends From the Catwalk – a NCREIF Styles White Paper Committee Report*, John Baczewski, Kathleen Hands and Charles R. Lathem, pp. 8-11 (NCREIF - National Council of Real Estate Investment Fiduciaries, October 10, 2003) See Content Section 3, Content Reference 5.

End of Appendix A, Content Section 9

Appendix A, Content Section 10: Tax and Accounting Consequences and Strategies within Real Estate Asset Management at the Portfolio Level

2% of the content area of the Exam.

Recall Items	1
Application Items	0
Analysis Items	1
Ethical Conduct interaction	1

Tasks include:

1. Recall the types of accounting statements (e.g., GAAP, Statutory and Tax).
2. Recall the relevant changes in tax laws and accounting standards.
3. Analyze the integration of changes in tax laws and accounting standards into the strategic plan.
4. Recall with ethical conduct the National Council of Real Estate Fiduciaries' (NCREIF) Market Value Accounting Policy Standards and the CFA® Institute's (formerly, the Association for Investment Management and Research's or AIMR's®) Performance Presentation Standards®.

Content References: total pages: **43** * previously cited: **0** total new pages: **43**

1. "Major Financial Statements: GAAP, Balance Sheet, Income Statement, Statement of Cash Flows – three sections, Cash Flow from Operations, Free Cash Flow", *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, pp. 313-318 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0)

   "Balance Sheet", "Example 2.2 Market versus Book Values", "Shareholder's Equity", "True Economic Value", *Fundamentals of Corporate Finance*, 2nd edition, Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan, p. 28 (Richard D. Irwin, Inc., 1993, ISBN 0-256-11113-8)

2. "Tax Considerations", "Regulatory and Legal Considerations – Prudent Man Rule", "Life insurance industry…tax treatment of…the inside buildup of cash values", "NAIC (National Association of Insurance Commissioners)", "Eligible Investments", "Regulation Q", "Usury Laws", "Capital Adequacy", *Managing Investment Portfolios - A Dynamic Process*, 2nd edition/Student Edition, John L. Maginn and Donald L. Tuttle, pp. 4-32, 4-33, 4-51, 4-52, 4-66, 4-67 and 4-71 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5)

   "Ethics and Regulation in the Professional Asset Management Industry - ERISA" and "Exhibit 25.18 Principal Securities Laws for the Asset Management Industry", *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, pp. 1092, 1093 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0)

3. "Figure 9-18 The Real Estate Portfolio Management Process – Inputs, Monitoring", "Q9:31 What is an investment policy statement?", "Q9:32 Which concerns are typically addressed in an investment policy statement?", "Q9:48 Why did pension funds invest in private equities but not in REITs prior to 1993?", "Q9:49 What was responsible for the growth in the equity REIT market in the early 1990s?" and "Five-or-fewer rule", *Pension Investment Handbook*, Mark W. Riepe, Q9:31, Q9:32, pp. 9-40 thru 9-43, Q9:48, Q9:49, pp. 9-53 thru 9-59, and p. G-17 (Panel/Aspen Publishers, Inc., 2000, ISBN 0-7355-0496-2)

   "Taxation - Characteristics of MBSs", "[MBS] Suitability Rules, etc.", "Investor Limitations", [MBS] Regulatory Requirements", *Mortgage-backed and Asset-backed Securities for Institutional Representatives*, Janet Desel Wiley, pp. 213-220 and 222 (Dearborn Financial Publishing, Inc., 1997, ISBN 0-7931-2583-9)

4. *Global Investment Performance Standards®* (GIPS) Handbook, www.cfainstitute.org/centre/ips/gips/pdf/GIPS_2006.pdf, CFA Institute, 2006.

   Definitions and Formulas, *Real Estate Information Standards*, NACREIF, PREA and NAREIM, pp. 95-100. (National Association of Real Estate Investment Fiduciaries, Pension Real Estate Advisors and National Association of Real Estate Investment Managers, 2000) http://www.ncreif.com

End of Appendix A, Content Section 10

Appendix A, Content Section 11: Capital Structure of the Portfolio within Real Estate Asset Management at the Portfolio Level

3% of the content area of the Exam.

Recall Items	0
Application Items	0
Analysis Items	3
Ethical Conduct interaction	1

Tasks include:

1. Analyze with ethical conduct capital structure opportunities.
2. Analyze with ethical conduct the determination of the optimal capital structure.
3. Analyze with ethical conduct actions taken upon capital structure opportunities.

Content References: total pages: **29** * previously cited: **8** total new pages: **21**

1. “Evaluating Operating Performance – ROE”, “The DuPont System – breakdown of Return on Equity (ROE)”, “Risk Analysis –Business, Financial”, *Investment Analysis and Portfolio Management*, 5th edition, Frank K. Reilly and K.C. Brown, pp. 393-399 (South-Western Publishing/Thomson Learning, 1997, ISBN 0-03-018683-8)
2. “Raising the Equity: How to find Partners to help fund the deal”, *Real Estate Investment and Acquisition Workbook*, Howard A. Zuckerman, pp. 375-386 (Aspen Publishing, Inc., 1998, ISBN 0-13-628637-2)

   * “WACC - weighted average cost of capital” and “The Cost of Equity Capital”, *Fundamentals of Corporate Finance*, 2nd edition, Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan, pp. 524-527 (Richard D. Irwin, Inc., 1992 and 1993, ISBN 0-256-11113-8) See Content Section 6, Content Reference 4.

   * “Capital Structure and the Cost of Capital”, “Financial Leverage, EPS, ROE”, and “Optimal Capital Structure: A Recap”, *Fundamentals of Corporate Finance*, 2nd edition, Stephen A. Ross, Randolph W. Westerfield and Bradford D. Jordan, pp. 518-520, 539 (Richard D. Irwin, Inc., 1992 and 1993, ISBN 0-256-11113-8) See Content Section 2, Content Reference 22.

3. “Debt and Diversification”, “Limitations on the Equity Constraint Argument for the Use of Debt”, *Commercial Real Estate Analysis and Investments*, David M. Geltner and Norman G. Miller, pp. 353, 354 (South-Western Publishing/Thomson Learning, 2001, ISBN 0-324013676-5)

End of Appendix A, Content Section 11

Appendix A, Content Section 12: Servicing and Administration within Real Estate Asset Management at the Portfolio Level

5% of the content area of the Exam.

Recall Items	3
Application Items	1
Analysis Items	1
Ethical Conduct interaction	1

Tasks include:

1. Recall the participants (e.g., master, primary, sub, special) in the servicing industry.
2. Recall the correspondent system.
3. Recall the key elements of the Pooling Servicing Agreement.
4. Apply with ethical conduct the roles and responsibilities of each participant.
5. Analyze with ethical conduct the differentiation in servicing requirements for CMBS versus portfolio lenders.

Content References: total pages: **37** ***** previously cited: **0** total new pages: **37**

1. "CMBS Servicing – transaction participants", "CMBS in contrast to Residential MBS", *Handbook of Mortgage Lending,* Gary Hutto and Jess Lederman, pp. 355, 356 (Mortgage Bankers Association of America, 2003, ISBN 1-57599-098-9)

   . "Sub-Servicing Agreement (SSA) – Sub-Servicer or Primary Servicer or Originator" etc., *Commercial Mortgage-Backed Securities Origination & Servicing Agreements for Commercial Mortgage Bankers*, M.A. Hill and J.E. Beltz, pp.16-17 (Mortgage Bankers Association of America).

   . * "Glossary - Master Servicer", *Real Estate Finance, Theory & Practice*, 3rd edition, Terrence M. Clauretie and G. Stacy Sirmans, p. 560 (South-Western Publishing/Thomson Learning, 2001, ISBN 0-324-13982-9). See Content Section 2, Content Reference 8.

   * "Special Servicer", *Glossary of Terms, Commercial Mortgage-Backed Securities (CMBS)*, Sally Gordon, one page (Commercial Mortgage Securities Association, 2005) See Content Section 2, Content Reference 8.

   Appendix B: "Master Servicer", "Special Servicer", "Sub Servicer", The Chartered Realty Investor Society

2. "Commercial Real Estate Mortgage Servicing", *Handbook of Mortgage Lending*, 2nd printing, Jess Lederman, p. 237 (Mortgage Bankers Association of America, July1996, ISBN 0-945359-43-8)

3. "Securitization Process – Issuer/Depositor, Underwriter, Master Servicer, Special Servicer, Trustee, CMBS Investor, Rating Agency", "Post-Securitization Servicing", "Standard Documents – Pooling and Servicing Agreement (PSA)", "Standard Documentation…if the PSAs indemnify the servicer" etc., *Commercial Mortgage-Backed Securities – A Summary for Asset Administrators*, K.A. Dunsmore, A.A. Hambly, M.A. Hill, D.J. Shay, pp. 6-9 and 11-15 (Mortgage Bankers Association of America)

   The Pooling and Servicing Agreement (PSA) or Trust and Servicing Agreement (TSA)", "Sub-Servicing Agreement (SSA)" etc., *Commercial Mortgage-Backed Securities Origination & Servicing Agreements for Commercial Mortgage Bankers*, M.A. Hill and J.E. Beltz, pp. 1, 11-19 (Mortgage Bankers Association of America)

   * "Sub-Servicing Agreement (SSA) – Sub-Servicer or Primary Servicer or Originator" etc., *Commercial Mortgage-Backed Securities Origination & Servicing Agreements for Commercial Mortgage Bankers*, M.A. Hill and J.E. Beltz, pp.16- 17 (Mortgage Bankers Association of America). See Content Reference 1, above.

4. "Mortgage Loan Purchase Agreement (MLPA) or Loan Purchase and Sale Agreement (LPSA)– Originator or Seller, Purchaser or Initial Owner", "Interim Servicing Agreement – Parties", *Commercial Mortgage-Backed Securities Origination & Servicing Agreements for Commercial Mortgage Bankers*, M.A. Hill and J.E. Beltz, pp. 2-10 (Mortgage Bankers Association of America)

   Interim Servicing Agreement (ISA) – Servicer or Originator or Seller, Purchaser or Initial Owner", *Commercial Mortgage-Backed Securities – A Summary for Asset Administrators*, K.A. Dunsmore, A.A. Hambly, M.A. Hill, D.J. Shay, pp. 5, 10 (Mortgage Bankers Association of America)

(Appendix A, Content Section 12 continued)

* "Securitization Process – Issuer/Depositor, Underwriter, Master Servicer, Special Servicer, Trustee, CMBS Investor, Rating Agency", "Post-Securitization Servicing", "Standard Documents – Pooling and Servicing Agreement (PSA)", "Standard Documentation…if the PSAs indemnify the servicer" etc., *Commercial Mortgage-Backed Securities – A Summary for Asset Administrators*, K.A. Dunsmore, A.A. Hambly, M.A. Hill, D.J. Shay, pp. 6-9 and 11-15, (Mortgage Bankers Association of America) See Content Reference 3, above.

* "The Pooling and Servicing Agreement (PSA)" or "Trust and Servicing Agreement (TSA)", "Sub-Servicing Agreement (SSA) – Sub-Servicer or Primary Servicer or Originator, Master Servicer" etc., *Commercial Mortgage-Backed Securities Origination & Servicing Agreements for Commercial Mortgage Bankers*, M.A. Hill and J.E. Beltz, pp.11-19 (Mortgage Bankers Association of America) See Content Reference 3, above.

5. "Defeasance by Design", Mary Stuart Freydberg and Mary MacNeill, *Structured Finance*, pp. 1-4, (Fitch IBCA, May 27, 1999)

End of Appendix A, Content Section 12

Appendix A, Content Section 13: Real Estate Investment Tools within Real Estate Asset Management at the Portfolio Level

6% of the content area of the Exam.

Recall Items	0
Application Items	2
Analysis Items	4
Ethical Conduct interaction	1

Tasks include:

1. Apply the calculation of central tendency, dispersion, regression and correlation analysis (Quantitative Analysis) at the portfolio level of real estate asset management.
2. Analyze with ethical conduct macro and urban economics tools at the portfolio level of real estate asset management.
3. Analyze the calculation and determination of the significance of FFO, EBITDA, NOI and costs of debt and equity capita at the portfolio level of real estate asset management l.
4. Apply the calculation of Expected and Required Rates of Return at the portfolio level of real estate asset management.
5. Analyze with ethical conduct the utilization of Efficient Market Theory, Modern Portfolio Theory and the Efficient Frontier in the investment decision-making process at the portfolio level of real estate asset management.
6. Analyze with ethical conduct the differentiation of the function of alternative indicators of value (e.g., using going concern, liquidation, dividend discount, free cash flow, residual income, asset-based, net asset value and option valuation models) at the portfolio level of real estate asset management.

Content References: total pages: **43** * previously cited: **15** total new pages: **28**

1. * "Measuring Return and Risk", "Problems", "Summary", *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, pp. 10-16, 31-33, 247-250 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0) See Content Section 9, Content Reference 3.

2. "Location Quotients and SICs", "Classification of Cities by Economic Base", "Classification of Cities for Real Estate Investment Analysis" and "Market Supply and Demand Variables and Indicators – Vacancy rate, Market rent, Effective rent, Construction completions, Gross absorption, Net absorption, Total Supply, Total Demand, Months Supply", *Commercial Real Estate Analysis and Investments*, David M. Geltner and Norman G. Miller, pp. 54, 55, 57-59, 106-109 (South-Western Publishing/Thomson Learning), 2001, ISBN 0-324-13676-5)

3. "REIT Earnings Measures – FFO, FAD, AFFO, CAD, EBTCF, GAAP net income", *Commercial Real Estate Analysis and Investments*, David M. Geltner and Norman G. Miller, pp. 637, 638 (South-Western Publishing/Thomson Learning), 2001, ISBN 0-324-13676-5)

4. "Calculating Expected Rates of Return", "Determinants of Required Rates of Return – Time value of money, Inflation, Risk" and "Comparing Expected Rate of Return to Required Rate of Return", 7th edition, *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, pp. 10, 11, 16, 576, 577 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0)

   Risk Premium", "Risk Premium and Portfolio Theory", "Fundamental Risk versus Systematic Risk", "Summary of Required Rate of Return", "Measures and Sources of Risk", "Relationship between Risk and Return", "Security Market Line (SML)", *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, pp. 20-23 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0)

5. "Efficient Market Theory [EMH] – Weak-form, Semi-strong, Strong", *Real Estate Finance, Theory & Practice*, 3rd edition, Terrence M. Clauretie and G. Stacy Sirmans, p. 38 (South-Western Publishing/Thomson Learning, 2001, ISBN 0-324-13982-9)

6. "Going-Concern Value", *The Appraisal of Real Estate*, 12th edition, Appraisal Institute, pp. 27, 28 (Appraisal Institute, 2001, ISBN 0922154-67-8)

   "Valuation Models...with embedded options – Binomial, Monte Carlo Simulation", "Modeling Risk", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 169, 170 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X)

(Appendix A, Content Section 13 continued)

* "Free Cash Flow," *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, p. 318 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0) See Content Section 10, Content Reference 1.

End of Appendix A, Content Section 13

Appendix A, Content Section 14: Valuation within Real Estate Asset Management at the Portfolio Level

5% of the content area of the Exam.

Recall Items	0
Application Items	5
Analysis Items	0
Ethical Conduct interaction	1

Tasks include:

1. Apply with ethical conduct the discounts for minority, non-market and illiquid ownership interests in equity real estate.
2. Apply the adjustments in value for the legal structure of the ownership interest in equity real estate.
3. Apply the methodologies for valuing REIT stock.
4. Apply the alternative, debt, valuation methodologies to Fixed-Income Securities.
5. Apply the valuation of mortgage servicing rights.
6. Apply with ethical conduct the alternative valuation methods for derivatives (e.g., hedges).

Content References: total pages: **53** * previously cited: **13** total new pages: **40**

1. "The Market Value of Partial Interests in Real Property", *The Appraisal Journal*, Lloyd D. Hanford, Jr., pp. 460-465 (Appraisal Institute, October, 1989)

2. *"Liquidity Risk", "Risk Premium", "Risk Premium and Portfolio Theory", *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, pp. 20 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0). See Content Section 13, Content Reference 4.

3. "GGM (Gordon Growth Model)", "two very different models – passive closed-end mutual fund and active operating corporation", "closed-end mutual fund discount", "operation corporations" and "Footnote 59 - layer of cost, layer of risk", C*ommercial Real Estate Analysis and Investments*, David M. Geltner and Norman G. Miller, pp. 628, 646, 647 (South-Western Publishing/Thomson Learning), 2001, ISBN 0-324-13676-5)

   "REIT Valuation in the Stock Market", "The Gordon Model", "existing property cash flow", "same-store growth", "equity-before-tax cash flow (EBTCF)" and "Net Asset Value (NAV)", "mark-to-market", Footnote 22 – "prevailing cap rate, non-asset-based earnings, price/earnings multiple", *Commercial Real Estate Analysis and Investments*, David M. Geltner and Norman G. Miller, pp. 625-627 633 (South-Western Publishing/Thomson Learning), 2001, ISBN 0-324-13676-5)

4. "General Principles of Valuation", "cash flows of a security", "present value of a cash flow", Exhibit 1: Price/Discount Rate Relationship for an Option-Free Bond", "Key Points", "zero-volatility spread", "Monte Carlo Simulation Model and OAS(Option-Adjusted Spread)", "Calculating the Present Value for an Interest Rate Path", "Option Cost", "Valuing Any Security – Option-free bond, Bond with an embedded option where the cash flow is not interest rate path dependent, Bond with an embedded option where the cash flow is interest rate path dependent" and "Key Points", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 148-151, 171, 494, 495, 498-503, 514, 515 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X)

   * "Valuation Models – Binomial, Monte Carlo simulation", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 169, 170 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X) See Content Section 13, Content Reference 6.

5. "The Secondary Market For Mortgage Servicing Rights", "Valuation Methodology", "Service Fee" "P&I Interest Float and Interest Earnings on Escrow", "Ancillary and Other Income", "Servicing Costs", "Foreclosure Costs", "Amortization", "Computing the Net Present Value", "Prepayments", "Valuation of ARM-Servicing Portfolios" and "OAS Analysis", *The Handbook of Secondary Marketing*, 1st printing, Jess Lederman, pp. 365-367, 370-376, 379, 380 (Real Estate Finance Press/Mortgage Bankers Association of America, March 1997, ISBN 1-57599-013-X)

6. * Swap Contracts", "Interest Rate Swaps" *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, pp. 1016-1023 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0). See Content Section 7, Content Reference 1.

(Appendix A, Content Section 14 continued)

* Appendix D: § 5. "Estimating the Price and Value of Derivatives"; § 5.1. "Definitions of Other Price and Value Terms"; § 5.2. Synthetic Positions and Put-Call Parity"; § 8. "Supplemental Information on Derivatives". The Chartered Realty Investor Society.

Appendix B: "Geometric Return, Geometric Mean Return (GMR) or Time Weighted Return". The Chartered Realty Investor Society

End of Appendix A, Content Section 14

Appendix A, Content Section 15: Investor Focus on the Management of Asset Classes

3% of the content area of the Exam.

Recall Items	0
Application Items	0
Analysis Items	3
Ethical Conduct interaction	2

Tasks include:

1. Analyze with ethical conduct the determination of the investor's objectives and constraints.
2. Analyze with ethical conduct the determination of the investment strategy, based on the investor's objectives and constraints.
3. Analyze with ethical conduct the review of the strategy with the investor.

Content References: total pages: **35** * previously cited: **11** total new pages: **24**

1. "Input to the Policy Statement", "Investment Objectives", "Legal and Regulatory Factors", "Unique Needs and Preferences" and "Constructing the Policy Statement", "Objectives and Constraints of Institutional Investors –Mutual Funds, Pension Funds", *Investment Analysis and Portfolio Management*, 5th edition, Frank K. Reilly and K.C. Brown, p. 43, 44, 50, 51 (South-Western Publishing/Thomson Learning, 1997, ISBN 0-03-018683-8)

   * "Risk Tolerance [Objective]", "Return Objective", "Investment Constraints", "Liquidity Needs", "Time Horizon" and "Tax Concerns", *Investment Analysis and Portfolio Management*, 5th edition, Frank K. Reilly and K.C. Brown, pp. 46, 47 (South-Western Publishing/Thomson Learning, 1997, ISBN 0-03-018683-8) See Content Section 6, Content Reference 1.

2. "Q9:35 How does a portfolio manager determine a portfolio strategy?", "Figure 9-18 The Real Estate Portfolio Management Process", "Table 9-5 Hypothetical Property Allocation Ranges", "Q9:38 Which aspects of the portfolio require monitoring?", "Q9:39 What is rebalancing?", "Q9:40 What are the costs of rebalancing a portfolio?", "Q9:41 What are the hazards of rebalancing a portfolio without adequate assessment?", "Q9:42 "Why is portfolio performance measurement important?", "Q9:43 How does active real estate management add value?", "Q9:44 How does the performance of public real estate equity compare with that of private real estate equity?", Q9:45 What is the relative importance of REITs to private real estate holdings for plan sponsors in terms of investment?", Q9:46 How large is the REIT market?", "Q9:47 How does the size of the equity REIT market compare with the private real estate equity market as measured by the NCREIF Index?", "Q9:31 What is an investment policy statement?", *Pension Investment Handbook,* 2nd edition, Mark W. Riepe, pp. 9-40, 9-45, 9-47 thru 9-52 including Figure 9-18 and Table 9-5 (Panel/Aspen Publishers, Inc., 2000, ISBN 0-7355-0496-2)

   "Portfolio Management as a process…with feedback loops", "The Process Logic" and "The Importance of Asset Allocation", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 1-2, 1-3 and 7-3 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5)

   "A review of historical data…indicates the importance of the asset allocation decision", *Investment Analysis and Portfolio Management*, 5th edition, Frank K. Reilly and K.C. Brown, p. 55, 56 (South-Western Publishing/Thomson Learning, 1997, ISBN 0-03-018683-8)

   * "Figure 1-1 The Portfolio Construction, Monitoring and Revision Process", "The Dynamics of the Process" and "Evaluation of Real Estate Strategies", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 1-4, 1-5, 14-47 and 14-48 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5) See Content Section 7, Content Reference 4.

   * "Net Asset Value [NAV]", *Commercial Real Estate Analysis and Investments*, David M. Geltner and Norman G. Miller, p. 633 (South-Western Publishing/Thomson Learning), 2001, ISBN 0-324-13676-5) See Content Section 14, Content Reference 3.

(Appendix A, Content Section 15 continued)

3. "Evaluation of Bond Strategies" and "Figure 14-6 Spectrum of Equity Manager Styles – Evaluation of Equity Strategies", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 14-27, 14-28, 14-36 and 14-37 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5)

   * "Investor/Consultant Definitions – Core, Value Added, Opportunistic",, *Real Estate Investment Styles: Trends From the Catwalk – a NCREIF Styles White Paper Committee Report*, John Baczewski, Kathleen Hands and Charles R. Lathem, pp. 8-11 See Content Section 3, Content Reference 5

   "Portfolio or Asset Level?", "Leverage is a wild card", *Real Estate Investment Styles: Trends From the Catwalk – a NCREIF Styles White Paper Committee Report*, John Baczewski, Kathleen Hands and Charles R. Lathem, pp. 15-17

End of Appendix A, Content Section 15

Appendix A, Content Section 16: Asset Classes and the Markets in Which They Are Traded as Part of the Management of Asset Classes

4% of the content area of the Exam.

Recall Items	4
Application Items	0
Analysis Items	0
Ethical Conduct interaction	0

Tasks include:

1. Recall the evaluation of the following securities:
   a) corporate
   b) government securities (e.g., Ginnie Mae with FHA-insured mortgage programs, Government-Sponsored Entities' programs)
   c) tax-exempt
   d) structured finance
   e) commercial mortgage backed
   f) asset backed
   g) securitized equities
2. Recall the evaluation of commercial mortgage loans.
3. Recall the evaluation of equity real estate.

Content References: total pages: **55** * previously cited: **11** total new pages: **44**

1.a) "Fixed Income Securities fall into two general categories: debt obligations & preferred stock", "Issuer/Borrower", "Investor/Lender/Creditor", "Debt obligations include bonds", "Indenture", "Par Value", "Coupon Rate: semi-annual, monthly and annual payments", "Absolute Priority Rule", "Unsecured Debt – Debenture", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 4-7, 84 and 86 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X)

"Bond Basics", "Q5:1 What is a bond?", "Corporate Bonds" etc., *Pension Investment Handbook*, 3rd edition, Mark W. Riepe, pp. 5-3, 5-22 and 5-23 (Aspen Publishers, 2003, ISBN 0-7355-3208-7)

1.b) "Extension Risk and Contraction Risk" and "Negative Convexity", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 404, 405 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X)

"Role of the Agencies - direct government agency…government sponsored enterprises (GSEs)", "Agency Multifamily MBS" and "Fannie Mae and Freddie Mac Multifamily Pass-Throughs" and "Credit Risk in CMBSs vs. Residential MBSs", *Mortgage-Backed and Asset-backed Securities for Institutional Representatives*, Janet Desel Wiley, pp. 16-18 and 191-197 (Dearborn Financial Publishing, Inc., 1997, ISBN 0-7931-2583-9)

* "Negative Convexity", "Positive Convexity", footnote "3…concave", "Exhibit 12: Negative and Positive Convexity Exhibited by a Callable Bond", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 252-255 and 268, 269 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X) See Content Section 8, Content Reference 5.

1.c) "Municipal Securities", "Tax-backed debt, "Revenue bonds", and "Taxability of Interest Income" and "After-Tax Yield and Taxable-Equivalent Yield", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 80, 130 and 131 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X)

1.d) * "Glossary - Structured Security", *Collateralized Debt Obligations" Structures and Strategies*, 1st edition, Brian P. Lancaster and Yu-Ming Wang, pp. 206 (Wachovia Securities, Inc., 2003)

1.e) "External [Third Party] Credit Enhancements", "Internal Credit Enhancements – Reserve Funds, Overcollateralization, Senior/Subordinated Structure", "Pass-Through versus Pay-Through Structures", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 452-455 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X)

(Appendix A, Content Section 16 continued)

"Duration of MBS – negativity convexity", *Mortgage-backed and Asset-backed Securities* for *Institutional Representatives*, Janet D. Wiley, pp. 81 (Dearborn Financial Publishing, Inc., 1997, ISBN 0-7931-2583-9)

* "Commercial Mortgage-Backed Securities [CMBS]" and "Credit Risk in CMBSs vs. Residential MBSs", *Mortgage-Backed and Asset-backed Securities for Institutional Representatives*, Janet Desel Wiley, pp. 196, 197 (Dearborn Financial Publishing, Inc., 1997, ISBN 0-7931-2583-9) See Content Reference1.b), above.

1.f) "Asset Types…in the ABS market – Amortizing Assets, Non-Amortizing Assets", "Home Equity Loan ABSs" and "Manufactured Housing Loan ABSs", *Mortgage-backed and Asset-backed Securities for Institutional Representatives*, Janet D. Wiley, pp. 168 and 174-176 (Dearborn Financial Publishing, Inc., 1997, ISBN 0-7931-2583-9)

* "External Credit Enhancements", "Internal Credit Enhancements", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 452-455 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X) See Content Reference 1.e), above.

1.g) * "REITs - two models – passive…closed-end mutual fund, [active] operating corporations", "closed-end mutual fund discount" and "Footnote 59 - layer of cost and layer of risk", *Commercial Real Estate Analysis and Investments*, David M. Geltner and Norman G. Miller, pp. 646, 647 (South-Western Publishing/Thomson Learning), 2001, ISBN 0-324-13676-5) See Content Section 14, Content Reference 3.

* "REIT net asset value [NAV]", *Commercial Real Estate Analysis and Investments*, David M. Geltner and Norman G. Miller, p. 633 (South-Western Publishing/Thomson Learning), 2001, ISBN 0-324-13676-5) See Content Section 14, Content Reference 3.

2. "Loan Documents – on real estate", *Real Estate*, 13th edition, James D. Shilling, p. 449 (South-Western Publishing/Thomson Learning, 2002, ISBN 0-324-14379-6)

"Deed of Trust", *Mortgage-backed and Asset-backed Securities for Institutional Representatives*, Janet D. Wiley, Glossary, p. 249 (Dearborn Financial Publishing, Inc., 1997, ISBN 0-7931-2583-9)

* "Options Pricing Theory- long a bond and short a series of calls", *Mortgage-backed and Asset-backed Securities* for *Institutional Representatives*, Janet D. Wiley, p. 81 (Dearborn Financial Publishing, Inc., 1997, ISBN 0-7931-2583-9) See Content Reference 1.e), above.

* "Prepayment", "Curtailment", "Net Interest", "Scheduled Principal Repayment", "Prepayment Risk", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, p. 76 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X) See Content Section 8, Content Reference 5.

3. "Overview of Real Estate Investment Analysis", "The Appraisal Process", "Table 6-11 Matrix of Real Estate Investment Categories – Equity: Direct, Indirect", and "Equity Real Estate", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 6-56 thru 6-63 and 6-66 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5)

End of Appendix A, Content Section 16

Appendix A, Content Section 17: Asset Allocation as Part of the Management of Asset Classes

6% of the content area of the Exam.

Recall Items	0
Application Items	3
Analysis Items	3
Ethical Conduct interaction	2

Tasks include:

1. Apply the explanation of interest rate based optionality in asset allocation.
2. Apply with ethical conduct the summary of Modern Portfolio Theory in asset allocation.
3. Analyze with ethical conduct the correlations among asset classes in asset allocation.
4. Analyze with ethical conduct the weighing of relative values among asset classes in asset allocation.
5. Apply with ethical conduct the regulatory and legal limitations to asset allocation.
6. Apply the measurement of performance results in asset allocation.
7. Analyze with ethical conduct the rebalancing of assets to achieve goals in asset allocation.

Content References: total pages: **70** * previously cited: **14** total new pages: **56**

1. "Price Volatility Characteristics of Bonds" "Option-Free Bonds", Exhibit 8: Impact of Convexity on Property", "Bonds with Embedded Options", Exhibit 10: Price/Yield Relationship for a Callable Bond and an Option-Free Bond", "Exhibit 12: Negative and Positive Convexity Exhibited by a Callable Bond", "Exhibit 13: Price/Yield Relationship for a Putable Bond and an Option-Free Bond", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 247-255 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X)

2. "Real Estate Investment Risk", "Systematic and unsystematic risks", "Standard Deviation (σ) Calculation", "Beta (βi)Calculation", "Modern Portfolio Theory (MPT)", "Covariance", "Efficient Portfolios", "Figure 2-4 Expected Returns of Two Negatively Correlated Returns", "Figure 2-5 Illustrations of Expected Returns on Two Assets – Perfectly Positively Correlated, Perfectly Negatively Correlated, Zero Correlated, Highly Positively Correlated", "Correlation Effects", "Table 2-7 Cross-Correlations", "Figure 2-6 Illustration of Risk Reduction Potential", "Efficient Frontier", "Diversification Adequacy", and "MPT and Real Estate Investing", "Table 10-8 Percentage Allocation Among Regions", "Naïve Diversification", "Property Type Diversification", "International Diversification", "Diversified Portfolio of Stocks, Bonds and Real Estate", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 2-15 thru 2-23, 2-36, 2-37, 10-42 thru 10-60 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5)

   * "Risk Premium", "Risk Premium and Portfolio Theory", Fundamental Risk versus Systematic Risk", Summary of Required Rate of Return", *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, pp. 20-23 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0) See Content Section 13, Content Reference 4.

3. * "Table 2-7 Cross-Correlations", "Table 2-11 Correlations of Real Estate Sectors…with Various Other Assets", "Figure 10-15 Comparison of Risk and Return", "Table 10-7 Regional Correlation Matrix", "Figure 10-16 Efficient Frontier Comparison…on Stocks, Bonds and Real Estate", "Table 10-9 Property Type Correlation", "Table 10-10 Correlation Coefficients for UK vs. US Stock, Bond and Property Investments", "Figure 10-18 Efficient Portfolios", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 2-15 thru 2-23, 2-36, 2-37, 10-42 thru 10-60 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5) See Content Reference 2, above.

4. "Correlation Coefficient", "Covariance", "Real Estate's Correlation with Other Assets", "Exhibit 12-9 Correlation Coefficients of Return", "Diversification Models – property type, geographic, economic", "Efficient Frontier – three inputs", "Growth of Institutional Assets under a Fiduciary Framework – MPT, ERISA", *The Handbook of Real Estate Portfolio Management,* J.L. Pagliari, pp. 68, 84, 127, 551, 972 and 1003 (The McGraw-Hill Companies., 1995, ISBN 1-55623-539-9)

(Appendix A, Content Section 17 continued)

5. * "Regulatory and Legal Constraints - Endowments", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, page 4-33 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5) See Content Section 10, Content Reference 2 and Content Section 7, Content Reference 5.

   * "Factors Suggesting Portfolio Rebalancing", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 13-5 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5) See Content Section 7, Content Reference 5.

   * "Legal and Regulatory Factors – fiduciary role", *Investment Analysis and Portfolio Management*, 5th edition, Frank K. Reilly and K.C. Brown, p. 50 (South-Western Publishing/Thomson Learning, 1997, ISBN 0-03-018683-8) See Content Section 15, Content Reference 1.

6. "Differences from AIMR-PPS Reporting for other Asset Classes", *Real Estate Information Standards - 2003*, NCREIF, NAREIM and PREA, pp. 16 of 53 thru 19 of 53 (NCREIF, NAREIM and PREA, 2003, NCREIF's web site)

7. "Option Trading Strategies", *Investment Analysis and Portfolio Management*, 5th edition, Frank K. Reilly and K.C. Brown, pp. 880-885 (South-Western Publishing/Thomson Learning, 1997, ISBN 0-03-018683-8)

   * "Factors Suggesting Portfolio Rebalancing", "Changes Affecting the Client" and "Inflation Rate Changes", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 13-4, 13-5 and 13-11 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5) See Content Section 7, Content Reference 5.

   * "Interpretations of Duration", *Fixed Income Analysis for the Chartered Financial Analyst® Program*, Frank J. Fabozzi, pp. 262-265 (Frank J. Fabozzi Associates, 2000, ISBN 1-883249-83-X) See Content Section 2, Content Reference 9.b).

   * Appendix D: § 5.2. "Synthetic Positions and Put-Call Parity"; § 5. "Volatility"; § 8. "Supplemental Information on Derivatives". The Chartered Realty Investor Society

End of Appendix A, Content Section 17

Appendix A, Content Section 18: Risk Management as Part of the Management of Asset Classes

4% of the content area of the Exam.

Recall Items	0
Application Items	2
Analysis Items	2
Ethical Conduct interaction	1

Tasks include:

1. Apply the explanation of the uses of financial risk management tools (e.g., hedges, swaps, caps, forwards, futures) particularly describing how they work and when they are used.
2. Analyze with ethical conduct the external factors to determine which financial tools should be used to mitigate risk.

Content References: total pages: **35** * previously cited: **10.** total new pages: **25**

1. "Pool Creation: From Mortgage Application to Pool Settlement", "Rate Lock", "Security Sale", "Mortgage Closing" and "Security Settlement", *Mortgage-backed and Asset-backed Securities for Institutional Representatives*, Janet Desel Wiley, pp. 37-41 (Dearborn Financial Publishing, Inc., 1997, ISBN 0-7931-2583-9)

   "Q9:16 What are derivative securities?", "Q16:13 How can a pension fund use futures contracts?", "Q16:14 How can a pension fund use futures contracts to implement market timing decisions?", "Q16:40 What are the motivations for selling a put option?", Q16:42 What is a protective put strategy?", "Q16:43 How does an investor decide how many puts to buy for a protective put strategy?", "Q16:44 What is a straddle?", "Q16:47 What are swaps used for?", "Figure 16-4 Cash Flows Between Counterparties in Floating-For-Fixed Swap" "Q16:50 What are the risks of a swap?", "Q17:1 What is securities lending?", "Q17:2 Who needs to borrow securities and why?", *Pension Investment Handbook*, 2nd edition, Mark. W. Riepe, pp. 9-26, 9-27, 16-15, 16-16, 16-18, 16-19, 16-32 thru 16-34, 16-38 thru 16-40, 17-2 and 17-3, (Panel/Aspen Publishers Inc., 2000, ISBN 0-7355-0496-2)

   * "Option Trading Strategies", *Investment Analysis and Portfolio Management*, 5th edition, Frank K. Reilly and K.C. Brown, pp. 880-885 (South-Western Publishing/Thomson Learning, 1997, ISBN 0-03-018683-8) See Content Section 17, Content Reference 7

   * "Risk Premium", "Risk Premium and Portfolio Theory", Fundamental Risk versus Systematic Risk", Summary of Required Rate of Return", *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, pp. 20-23 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0) See Content Section 13, Content Reference 4.

2. "Swap Contracts, Convertible Securities and Other Embedded Derivatives", "Forward-Based Interest Rate Contracts", "Notional Principal", "Figure 25.1 A Matched Pair of 3 x 6 FRA Transactions", "Interest Rate Swaps", "Swap Spread", *Investment Analysis and Portfolio Management*, 7th edition, Frank K. Reilly and K.C. Brown, pp. 916-921 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-17173-0)

End of Appendix A, Content Section 18

Appendix A, Content Section 19: Regulatory, Legal, and Oversight Environments as Part of the Management of Asset Classes

2% of the content area of the Exam.

Recall Items	1
Application Items	0
Analysis Items	1
Ethical Conduct interaction	1

Tasks include:

1. Recall the monitoring of self-regulating bodies (e.g., FASB, rating agencies [S&P, Fitch, Moody's], NAIC).
2. Analyze with ethical conduct the determination of the effects of regulation and law on investment strategies.
3. Analyze with ethical conduct the determination and implementation of a strategy to comply with the regulatory and legal, investment constraints.
4. Analyze with ethical conduct corporate governance issues.

Content References: total pages: **57** * previously cited: **11** total new pages: **46**

1. "FFIEC [Federal Financial Institutions Examining Council] Test", "Table 10-1 FFIEC Risk Tests", "NAIC [National Association of Insurance Commissioners] FLUX (FLow Uncertainty IndeX) Model - Calculations", *The Mortgage-Backed Securities Workbook – Hands-On Analysis and Valuation for Investment Decision-Making*, Andrew S. Davidson and M.D. Herskowitz, pp. 199-203 and 210 (The McGraw-Hill Companies, 1996, ISBN 1-55738-915-2)

2. "Legality of Investment", "SMMEA", "ERISA", "FIRREA", "FFIEC", "NASD Sales Practice and Suitability Rules" and "NASD Mark-up Rules", *Mortgage-backed and Asset-backed Securities for Institutional Representatives*, Janet Desel Wiley, pp. 223, 224, 227, 233, 234 (Dearborn Financial Publishing, Inc., 1997, ISBN 0-7931-2583-9)

   "Exhibit 1-1 Regulatory Environment of Financial Institutions", "FIRREA", "Qualified Thrift Investments (QTIs)", "Post-FIRREA Regulatory Structure of the Mortgage Market", *Real Estate Finance, Theory & Practice,* 4th edition, Terrence M. Clauretie and G. Stacy Sirmans, p. 11-14 and 81-87 (South-Western Publishing/Thomson Learning, 2003, ISBN 0-324-14377-x)

   * "Suitability", "Regulatory Requirements", "Registration", *Mortgage-backed and Asset-backed Securities for Institutional Representatives*, Janet Desel Wiley, pp. 215-220 and 222 (Dearborn Financial Publishing, Inc., 1997, ISBN 0-7931-2583-9) See Content Section 10, Content Reference 3.

3. "A Relative Measure of Risk - Coefficient of Variation (CV)", "REITs", "Raw Land", "Land Development", "Rental Property", "Table 3.7 - Geometric Mean, Arithmetic Mean, Standard Deviation and Coefficient of Variation", "Relative Asset Risk", "Correlations between Asset Returns" and "Table 3.8 Correlation Matrix", *Investment Analysis and Portfolio Management*, 5th edition, Frank K. Reilly and K.C. Brown, pp. 15, 86, 87, 92, 93 (South-Western Publishing/Thomson Learning, 1997, ISBN 0-03-018683-8)

   "Volatility" etc., *The Handbook of Real Estate Portfolio Management*, J.L. Pagliari, pp. 215, 233, 235, 438, 601, 602 (The McGraw-Hill Companies, 1995, ISBN 1-55623-539-9)

   * "Fiduciary Duty ● provide for reasonable diversification", "Prudent Man Rule", "Modern Portfolio Theory (MPT)", "Prudent Investor Rule", "ERISA and Fiduciary Duty ● by diversifying the investments", "Prudent Expert Rule", Self-dealing", "Conflicts of Interest", "Kickbacks", *Standards of Practice Handbook*, 8th edition, pp. 210-213 (CFA Institute 1999, ISBN 0-935015-39-6) See Content Section 1, Content Reference 2.b).

4. "Q2:6 Why is it important for a plan to have a written investment policy?", "Q2:7What should be included in an investment policy statement?", "Q18:1Who is a fiduciary under ERISA", "Q18:2How does ERISA determine whether or not a person may be held accountable as a fiduciary?", "Q18:4What does it mean to render investment advice for the purpose of determining fiduciary status?", "Q18:74May a fiduciary face criminal liability under ERISA for a breach of fiduciary duty?" and "Q18:75May a fiduciary face criminal liabilities under other statutes?", *Pension Investment Handbook*, 2nd edition, Mark W. Reipe, pp. 2-5 thru 2-12, 18-3 thru 18-5, 18-30 (Panel Publication/Aspen Publishers, Inc., 2000, ISBN 0-7355-0496-2)

   "Corporate Governance", "Soft Dollars", *Standards of Practice Handbook*, 8th edition, p. 91 (CFA Institute 1999, ISBN 0-935015-39-6)

End of Appendix A, Content Section 19

Appendix A, Content Section 20: Benchmarking and Performance Measurement as Part of the Management of Asset Classes

4% of the content area of the Exam.

Recall Items	0
Application Items	1
Analysis Items	3
Ethical Conduct interaction	1

Tasks include:

1. Apply with ethical conduct various performance indices available for comparison.
2. Analyze with ethical conduct the determination of applicable indices to measure against performance.
3. Analyze with ethical conduct the quantification of performance in units of measure comparable to benchmarks.
4. Analyze with ethical conduct the comparison of performance to an appropriate index.
5. Analyze with ethical conduct the results of performance comparison by use of attribution analysis.

Content References: total pages: **36** * previously cited: **6** total new pages: **30**

1. – 2. "Real Estate Indexes" and "FRC Cap-Adjusted Index", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 10-9 thru 10-11 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5)

"NCREIF Index Return Formula" and "Benchmarks in the Private Real Estate Asset Class – passive index, active management", *Commercial Real Estate Analysis and Investments*, David M. Geltner and Norman G. Miller, pp. 188, 189 and 729-731 (South-Western Publishing/Thomson Learning), 2001, ISBN 0-324-13676-5)

"Summary of Comments on the Russell-NCREIF Index", "Institutional Property Consultants' [IPC] Benchmark", "Liquidity Fund Index" and "Rogers, Casey & Associates Open- and Closed-End Fund Performance Evaluation Report", *An Examination of Institutional Real Estate Performance Indices*, Philip D. Galiano, pp. 31-38 (Massachusetts Institute of Technology, September 1991, an MIT thesis document)

* "Investor/Consultant Definitions", "Investment Style Definitions – Asset and Portfolio Levels" and "Leverage is a wild card", *Real Estate Investment Styles: Trends From the Catwalk – a NCREIF Styles White Paper Committee Report,* John Baczewski, Kathleen Hands and Charles R. Lathem, pp. 8-11, 15, 16 (NCREIF, October 3, 2003) See Content Section 3, Content Reference 5 and Content Section 15, Content Reference 3.

3. – 5. "Performance Attribution", "Allocation Effect", "Table 14-3 Allocation/Selection Performance Attribution Analysis" and "Selection Effect", *Managing Investment Portfolios – A Dynamic Process*, 2nd edition/student edition, John L. Maginn and Donald. L. Tuttle, pp. 14-24 thru 14-27 (Association for Investment Management and Research, 1990, ISBN 0-7913-0322-5)

"Russell-NCREIF Property Index Rate of Return Formula – Income Return and Total Return", *Making a Case for the Russell-NCREIF Indexes*, Mike Miles, David Brunette, p. 6 (NCREIF, June 1992)

"Q13:2What factors other than return on investment should be considered in an evaluation of a manager's performance?", Q13:3How can quantitative performance measures be used to evaluate portfolio managers?", Q13:4Why is a peer group a useful tool for evaluating manager performance?", Q13:5 How should a peer group be defined for purposes of performance comparison?", Q13:6What are the limitations of a peer group analysis?", "Q13:9What are the different types of benchmarks?" etc., "Performance Attribution", "Table 13-2 Attribution of Monthly Returns", "Table 13-5 & Table 13-6 Attribution Analysis – Surz Method", *Pension Investment Handbook*, 2nd edition, Mark. W. Riepe, pp. 13-4, 13-5, 13-7, 13-33, 13-34 and 13-38 (Panel/Aspen Publishers Inc., 2000, ISBN 0-7355-0496-2)

For supplemental information on benchmarking and performance measurement,
See "Real Estate Information Standards 2003" by NCREIF, NAREIM and PREA at www.ncreif.org.

End of Appendix A, Content Section 20

APPENDIX B
Real Estate, Investment and Regulatory Acronyms and Glossary

The information and other material contained, cited or referenced in this Appendix do not constitute any investment, legal or tax advice. They are solely for the purpose of understanding the Tasks covered by the Exam. In all events, one should seek independent, qualified counsel. Copyrighted and proprietary contributor materials are referenced and are contained herein.

The following list (i) defines real estate, investment, regulatory and ethical conduct acronyms and terms that are used in this *Guide* and the real estate industry and (ii) assists in understanding some of the professional Tasks that are in Appendix A and that may occur in the Level 2 Exam. This list is not comprehensive. It is a supplement to, not a substitute for, the understanding that may be obtained by reading the Content References in Appendix A.

All terms not defined in this *Guide* shall have the meaning stated in the latest edition of Black's Law Dictionary.

Capitalized terms within a definition are defined elsewhere below or in Appendices C, D or F.

Abandonment: The voluntary and intentionally permanent relinquishing of a right or interest (e.g., possession or ownership of Real Estate).

Abatement: The act of eliminating or nullifying or of lessening or moderating, including the removal of Contaminants from Real Estate.

Above-Ground Release: Any Contaminant release to the surface of the land or the water.

Acord Form: Industry-wide, standardized forms developed by insurance companies and agency groups for insurance applications, certificates of insurance, quotations, etc. {see www.acord.org}

Active Real Estate Management: Seeks to add value to a portfolio by Market Allocation, Property Selection or Diversification.

Additional Insured: An entity, other than the named or primary insured, who is covered or protected by the insurance policy most often in regard to a specific interest and who may or may not be named specifically in the policy.

Adjusted Funds From Operations (AFFO): A real estate company's cash flow generated by operations calculated by subtracting from Funds from Operations (FFO) both (1) normalized recurring expenditures that are capitalized by the REIT and then amortized, but that are necessary to maintain a REIT's properties and its revenue stream (e.g., new carpeting and drapes in apartment units, leasing expenses and tenant improvement allowances) and (2) "straight-lining" of rents. This calculation also is called Cash Available for Distribution (CAD) or Funds Available for Distribution (FAD).

Adverse Possession: Acquiring title to Real Estate by possession for a statutory period of time when a non-permissive use with a claim of right is continuous, exclusive, hostile, open and notorious {see Prescription}

Aging: The observed condition that commonly Prepayments are slower for new than for old single-family mortgage loans.

ARM: An Adjustable Rate Mortgage has the following features:

- **Index Value:** An ARM coupon rate is based on an **Index** (e.g., CD, 11th District cost of funds, LIBOR 1-year T Note)
- **Initial Net Coupon:** The rate paid to a mortgage security investor until the first Reset date
- **Gross Margin:** The spread to the Index paid by a borrower. It includes the servicing and guarantee fees
- **Net Margin:** The spread paid to a mortgage security investor after the servicing and guarantee fees
- **Reset Frequency:** The time between the coupon Reset dates (e.g., monthly, annually)
- **Periodic Rate Cap:** The maximum amount of permitted change in the coupon rate paid by the borrower
- **Net Life Cap:** The maximum, potential coupon paid to a mortgage security investor
- **Net Life Floor:** The minimum, potential coupon to a mortgage security investor

Asset Allocation: The investment decision that optimally selects and weights which Asset Classes are in a portfolio. There are three primary methods of Asset Allocation:

- strategic
- tactical
- dynamic asset allocation

Asset Allocation is not Security (or Individual Asset) Selection, which is the selection of individual investments (e.g., whole equity Office Building, Apartment REIT stock, Shopping Center mortgage, CMBS) to hold within a specific Asset Class (e.g., Real Estate).

Asset Class: The typical financial form of investments (e.g., art, bonds, cash, commodities, common stocks, Real Estate, venture capital).

Asset Management: is Investment Decision-making and Implementation. {see Asset Manager, Conduct in Appendix C}

Associated Person: is any person who works for a registered Securities Broker-Dealer, whether such person is an employee, independent contractor, or is otherwise working with a broker-dealer. The person may be called a "stock broker" or "registered representative." Although an Associated person usually does not have to register separately with the SEC, she/he must be properly supervised by a currently registered broker-dealer. He/she may also have to register with the self-regulatory organizations of which his/her employer is a member -- for example, NASD or a national Securities exchange. To the extent that an Associated Person engages in Securities activities outside of the supervision of their broker-dealer, they would have to register separately as a broker-dealer. An unregistered entity is not permitted to receive commission income on behalf of a registered representative.

Any person acting as a broker or dealer must not engage in Securities business until properly registered.

{see the supplemental glossary for Securities Broker-Dealer Registrations and therein The Securities Exchange Act of 1934}

Attribution Analysis: See Performance Attribution.

Below-Ground Release: Any Contaminant release below the surface of the land or the water.

BEY or **Bond-Equivalent Yield:** The yield calculated by converting monthly compounding into semiannual compounding. Since interest on mortgages and mortgage Securities is compounded monthly and interest on corporate and Treasury Securities is compounded semiannually, the mortgage yield is frequently converted and reported on a BEY basis.

$$\text{BEY \%} = 200 \times [(1 + (\text{Mtg. Y\%}/1200))^{6} - 1]$$
$$\text{Mtg Y\%} = 1200 \times [(1 + (\text{BEY\%}/200))^{1/6} - 1]$$

If the annual mortgage yield is 10.00%, then the annual BEY is 10.2107% and is calculated as follows:

(10% / 1200)	=	0.0083
(1 + 0.0083)	=	1.0083
$(1.0083)^{6}$	=	1.0511
[1.0511 -1]	=	0.0511
200 x [0.0511}	=	10.2107%.

(continued on next column)

Using an annual Bond Equivalent Yield of 10.2107%, then the annual Mtg Y% is calculated as follows:

(10.2107% / 200)	=	0.0511
(1 + 0.0511)	=	1.0511
$(1.0511)^{1/6}$	=	1.0083
[1.0083 – 1]	=	0.0083
1200 x [0.0083]	=	10.0000%

Bond: A long term (e.g., usually 10 or more years), interest bearing debt instrument, usually issued with a Par Value of $1,000, that may be secured or unsecured (i.e., a Debenture).

bp or Basis Point: one one-hundredth of a percentage point. {see Point}

Breakpoint: The level of (retail) sales over which a percentage rent is paid by the tenant.

Btu: A British thermal unit is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit. A 1,000 Btu equal a Therm. 3,412 Btu equal a kilowatthour.

The typical Btu content of various minerals, substances, products and activities is:

- 1 Btu per match
- 500 Btu to make a cup of coffee
- +1,000 Btu per cf natural gas (i.e., Btu content of 6,000 cf of natural gas equals one Barrel of oil)
- 6,000 Btu per pound of wood
- 5,000 – 15,000 Btu per pound of various coal types
- 28,000 Btu to operate a television for 100 hours
- 50,000 Btu to cook on a gas stove for one day
- 125,000 Btu per gallon of gasoline
- 6,000,000 Btu per Barrel of Oil

Bundle of Rights: All the rights, or interests or estates, inherent in the ownership of Real Estate, the land and appurtenances of the land. Herein, they include the inherent and/or plenary powers of a governmental entity or sovereign (e.g., eminent domain, escheat, police power and taxation). {see Real Estate}

Burnout: The observed condition that commonly occurs when prepayments for single-family residential mortgage loans begin to decline after being at high rates for a period of time.

Business Income Coverage (aka **Business Continuation Insurance, Business Income Insurance and Loss of Income** or **Time Insurance,** also formerly **Business Interruption Insurance):** Commercial property coverage that reimburses lost earnings when normal business operations are temporarily suspended because of property loss caused by insured perils. Coverage usually includes salaries, taxes, rents, net profits, and necessary operating expenses during the period required to restore operations with due diligence. This policy replaced the previous business interruption form.

CAM: Common area maintenance.

Capitalization Rate (Cap Rate): Defined as the net operating income (I) for the year divided by the appraised value, or price, of the property (V) [I/V = R]. It is used as a measure and/or benchmark for a property's value based on current performance. Cap rates also serve as an indicator of investor expectations.

CAPM: or the **Capital Asset Pricing Model:**

$E(R) = r_f + ß_s (E[r_m] - r_f)$

where

- E(R) is the Expected Return on a Security or portfolio {see Appendix D}
- r_f is the Expected return of the riskless asset
- $ß_s$ is the beta of the Security or portfolio
- $E[r_m]$ is the Expected Return on the market
- $(E[r_m] - r_f)$ is the equity risk premium

The Model states, under certain assumptions, that an investor's Expected Return on a Security or portfolio is proportional to the amount of Systematic Risk assumed.

Carrying Capacity: The number of people per hour carried by an escalator or moving walk.

Cash-on-Cash Return or **Equity Yield Rate (EYR):** The short-term return on an investment in a property defined as the cash flow received divided by the cash equity invested in a property; expressed as a percentage**.**

Cash (or **Funds) Available for Distribution (CAD** or **FAD):** A measure of a REIT's ability to generate cash and to distribute dividends to its shareholders. In addition to subtracting from FFO normalized recurring real estate-related expenditures and other non-cash items to obtain AFFO, CAD (or FAD) is derived by also subtracting nonrecurring expenditures.

CBO or **Collateralized Bond Obligation:** A structured Security backed mainly by corporate bonds.

CDO or **Collateralized Debt Obligation:** A CLO, a CBO or any Structured Security backed by other structured products, including RMBS, CMBS, REIT corporate debt or other CDOs and structured Securities backed by credit default or total return swaps that are linked to corporate or structured debt.

CERCLA (or **Comprehensive Environmental Response, Compensation and Liability** (or **Superfund) Act:** A federal statute enacted in 1980 and subsequently amended that:

- created a tax on the chemical and petroleum industries
- provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment
- established prohibitions and requirements concerning closed and abandoned hazardous waste sites
- provided for liability of persons responsible for releases of hazardous waste at these sites
- established a trust fund to provide for cleanup when no responsible party could be identified

cf: A cubic foot

Client: Any entity to which, or whom, another entity owes a Fiduciary Duty.

CMBS or **Collateralized Mortgage-Backed Security:** is a Bond that is backed, or collateralized, by a pool of mortgages on income producing, or commercial, property, that have been transferred to a trust, and distributes the principal and interest paid on those mortgages to investors in a defined sequence, or Waterfall.

CMBS Issuer: The architect of a CMBS (e.g., commonly an investment banker), who:

- aggregates loans that are to be securitized
- defines the classes of Bonds that are offered to investors
- evaluates and aggregates, or pools, the loans for the CMBS trust
- submits summaries of the loans to the rating agency {see NRSRO}

CMO: Collateralized Mortgage Obligation.

Coinsurance Clause (or **Penalty):** In the context of property insurance, the policy provision that states the minimum percentage of the property's value (generally determined at the time of the loss) that the policyholder must insure to collect the entire amount of any loss, not to exceed the policy limit. If the insurer determines that amount of insurance in the policy is less than the required coinsurance percentage, then the insurer reduces the claim payment by a penalty. The following example indicates how a policyholder can underinsure a property and suffer an uninsured loss of $13,044 (i.e. $100,000 claim minus $86,956 payment):

Policyholder's:	
Estimate of the building's value	$1,000,000
Purchased policy Coinsurance Clause	80%
Purchased policy amount	$800,000
Purchased policy deductible	none
Filed claim amount for fire damage	$100,000
Expected payment from claim	$100,000
Insurer's:	
Determination of replacement cost	$1,150,000
Coinsurance Clause in policy	80%
Calculation of required amount	1,150,000 x 80%
Required policy amount	$920,000
Calculation of payment	800,000/920,000
Calculated payment factor	86.95%
Calculation of payment	$100,000 x 86.95%
Calculated payment	$86,956
Deductible in policy	- none
Payment to policyholder for claim	$86,956

Comfort Letter or **Cold Comfort Letter**:

- An independent auditor's letter, required in Securities underwriting agreements, to assure that information in the registration statement and prospectus is prepared correctly and that no Material changes have occurred since its preparation. It is sometimes called a Cold Comfort Letter because the accountant does not state positively that the information is correct, only that nothing has come to their attention to indicate that it is not correct.

- A letter from one to another of the parties to a legal agreement stating that certain actions not clearly covered in the agreement will or will not be taken. Such declarations of intent usually deal with matters that are of importance only to the specific parties and do not concern other signers of the agreement.

Condemnation: The determination and pronouncement, conditioned on reasonable compensation, that a property is assigned to public use; also a governmental entity's exercise of Eminent Domain.

Conflict of Interest: Any Material matter that reasonably could be expected to interfere with the Fiduciary Duty to make an unbiased and objective recommendation. A real or seeming incompatibility between a person's private interests and the person's public or Fiduciary Duty.

Confirmation Letter: A "no downgrade letter" from the rating agency that provided a REMIC with the original rating. This letter provides that the substitution of the defeasance collateral for the mortgaged property will not result in a downgrade, withdrawal, or qualification of the rating assigned to the REMIC. This process also serves as a means for the rating agency to conduct a final review to ensure that all of the documentation related to the above items is in proper order.

Contaminant: Any hazardous biological, chemical, physical or radiological matter in the air, land or water that may cause a diminution in the value of Real Estate, including but not limited to asbestos, benzene, electromagnetic fields, leachate, metals (e.g., lead paint, mercury, solder), oil seepage or spill, pollutant, radon, indoor air quality problem, solvent plume (e.g., PCE), toxic waste, waste water, water intrusion, wetlands, wood rot and x-ray release

Convexity: A measurement of the rate of change of Duration of a Security. A measure of the price sensitivity of a fixed income Security to changes in interest rates. It refers to the shape of the price curve when graphed against theoretical interest rate points and is influenced by the coupon rate, maturity and any calls that may or may not exist. Prices rise at increasing rates as yields fall and prices decline at decreasing rates as yields rise.

Corporate Governance: The internal controls and procedures, including checks, balances and incentives, an entity needs and by which it is managed to minimize and to handle a Conflict of Interest between the entity's Insiders and external equity owners.

Corporate-Opportunity Doctrine: In a corporation, the established and authoritative standard that a control group person (e.g., a director, employee and officer) shall not use any Insider Information for their personal advantage. {see Firm-Opportunity Doctrine}

CPR (Conditional or **Constant Prepayment Rate)**: A percentage of the outstanding collateral principal that is expected to prepay in one year. A CPR represents an assumed constant rate of Prepayment each month (expressed as an annual rate), rather than a variable rate of Prepayment. The CPR formula is:

$$\textbf{CPR} = 100 \times \{1 - [1 - (\text{SMM} / 100)]^{12}\}$$

Credit Derivative: A financial instrument wherein a party has the right to a payment from another party when a stated credit event occurs during the term of the instrument.

Credit Swap: A Credit Derivative in which a party pays stated periodic amounts to a second party in return for receiving the second party's promise to payoff in the event a third party defaults on an obligation.

Credit Enhancement: Provisions in addition to the mortgage collateral to support a desired credit rating on mortgage backed securities. Provisions made by issuers to compensate for default risk in CMBS. Forms include advance payment agreements ("advances"), corporate guaranty, cross-collateralization, cross-default provisions, lease assignment, letter of credit ("LOC"), over collateralization, reserve funds (incl. spread accounts), senior/subordinate (or "A.B") structuring, subordination and third party pool insurance.

Credit Insurance: Insurance against loss resulting from a failure of a debtor to pay its obligations to the insured.

CREF: Commingled real estate fund.

Crop Insurance: Coverage issuer by the Federal Crop Insurance Corporation or by a private insurer for the perils incurred in growing crops, that may include bad weather, hail, fire, flood, insects and disease. It generally is effective 24 hours after an application is received and is reduced proportionally as harvesting progresses and terminates when the harvest is complete.

Custodian: 1. As a guardian, a person that has charge of property; and 2. In bankruptcy, a prepetition agent who has taken charge of any debtor asset.

Customer: Any entity to which, or whom, another entity does not owe a Fiduciary Duty.

Debenture: Unsecured debt backed only by the integrity of the borrower, not by collateral, and documented by an agreement called an Indenture. One example is an unsecured Bond.

Deed of Trust (aka **Trust Deed** or **Trust Indenture):** A written instrument transferring a real property to a trustee until the grantor satisfactorily repays a loan.

Defeasance: The act of making an investment whole. The supplementing of existing investment terms available (typically through a cash payment) to make the currently available market yield equivalent to that of a pre-existing investment that is being terminated. Most commonly used in bond finance. A common Prepayment option.

Depositor: The entity that accumulates the mortgages and transfers them to the Trust simultaneously with the issuance of the securities to the certificate holders. The depositor can be the seller of a portfolio of mortgages or an entity established just for the purpose of holding the mortgages until the pool accumulation is completed.

Detrimental Condition: Any issue or condition that reduces the value of Real Estate including the impact of any Contaminant or adverse physical exposure, including but not limited to avalanche, cyclone, differential settlement, drought, earthquake, expansive soil, bad feng shui, floodplain, groundwater seepage, hurricane, hydric soil, infestation, landslide, liquefaction, monsoon, protected species or vegetation, quicksand, salt flat, sea water percolation, sinkhole, slope creep, sludge, soil subsidence, solid waste, subsurface construction defect, surging soil, termites, tidal area, tsunami, tornado and volcano.

Direct Participation Programs or **DPP:** Provide for flow-through tax consequences regardless of the structure of the legal entity or vehicle for distribution including, but not limited to, oil and gas programs, real estate programs, agricultural programs, cattle programs, condominium Securities, Subchapter S corporate offerings and all other programs of a similar nature, regardless of the industry represented by the program, or any combination thereof. Excluded are real estate investment trusts, tax qualified pension and profit sharing plans pursuant to §401 and 403(a) of the Internal Revenue Code and individual retirement plans under §408 of that Code, tax sheltered annuities pursuant to the provisions of §403(b) of the Internal Revenue Code, and any company, including separate accounts, registered pursuant to the Investment Company Act of 1940.

Diversification: The reduction of risk by constructing a portfolio of asset classes and investments with Negative Correlation Coefficients. One of the three primary classifications of Active Real Estate Management. The ability to add value to a portfolio in comparison with a market portfolio by receiving compensation for Systematic (i.e., market or undiversifiable) Risk that affects the whole economy and therefore all assets in the market and by eliminating Unsystematic (i.e., unique or diversifiable) Risk that is not attributable to market factors. {see Appendix D}

Diversity Score: A Moody's Investors Service, Inc. representation of the diversity of collateral that uses a correlation calculation method for structured product transactions and a point scoring method for corporate debt. {see WARF}

DSCR: Debt service coverage (or DSC) ratio, also know as the DCR, or debt coverage ratio.

Duration: A measure of the timing of the cash flows (*e.g.*, the interest payments and the principal repayment) to be received from an asset (e.g., a fixed income Security). The Duration of an asset is equal to (a) the sum of each of the cash flows weighted by the time to receipt of each cash flow, divided by (b) the total of the present values of the cash flows.

- The Duration of an asset is a useful indicator of its price volatility for certain changes in interest rates; the greater the Duration, the greater the price volatility relative to a change in interest rates.
- Subject to specific conditions:
  [Duration-estimated price change] = [negative the modified Duration] x [discount or interest rate change]
  Duration is an estimate of the percentage change in price for each 100 basis point change in the discount rate.
- The Duration of an asset increases as an asset's:
  1. investment holding period or time horizon (e.g., term to maturity or lease term) increases
  2. coupon or discount interest rate decreases
- Duration implies a linear relationship between changes in interest rates and changes in asset (e.g., a lease, Bond or other fixed-income instrument) prices, which overlooks the actual curvilinear or convex relationship. As the size of the interest rate change increases, the Duration-estimated price change becomes increasingly understated. {see Convexity}
- The correctness of a Duration-estimated price change is dependent upon:
  1. small changes in interest rates
  2. interest rate changes that are parallel shifts in the yield curve
  3. no differentiation in the default risk between the Durations of different assets
  4. recalculation of Duration for any passage of time (e.g., decrease in the time to maturity or time remaining in the lease term) and each change in the level of interest rates
- Placing or increasing the debt on assets with long term income flows can reduce the asset's Duration by reducing or eliminating the net income after debt service.
- Duration is also a useful concept in assessing the reinvestment risk associated with a given portfolio or the interest rate risk associated with matching particular interest-rate-sensitive assets and liabilities.
- A building's Duration is the sum of:
  [lease value/total value] x lease Duration
  plus
  [Reversion value/total value] x reversion Duration
- **Positive Duration** means the price of a Security moves in the opposite direction of a change in interest rates.

- **Negative Duration** means the price moves in the same direction as a change in interest rates.

Dynamic Asset Allocation: One of the three primary methods of Asset Allocation. The investment policy decision to control downside risk by reacting to actual past market shifts. Although it is similar to Tactical Asset Allocation in changing asset exposure according to market shifts, it does not attempt to increase return by predicting future, market movements.

Easement: An interest in or right to use or to control land, that is owned by another entity, or an area above or below the land, for a limited purpose.

- **Prescriptive Easement**: An easement created from an open, adverse and continuous use over a statutory period.{see Prescription}

EBITDA: Earning before interest, taxes, depreciation and amortization.

ECOA or **Equal Credit Opportunity Act:** A federal statute effective in 1975 and subsequently amended that prohibits a lender from illegally discriminating against a borrower applicant in any credit transaction.

Efficacy Coverage Insurance: A form of Financial Guaranty Insurance for large industrial construction projects that guarantees an installation (e.g., chemical plant, manufacturing facility) will perform efficiently (as represented or warranted). Coverage usually guarantees the loans used to finance the project, the repayment of which are contingent on the project meeting certain minimum production requirements.

EMH or Efficient Market Hypothesis: is the theory that the current price of a Security (or other asset) completely reflects the impact of all of the available and relevant information. There are three forms of EMH:

- **Weak-form EMH:** Current price fully reflects all the historical market information.
- **Semistrong-form EMH:** Current price fully reflects all publicly available information.
- **Stong-form EMH:** Current price fully reflects all publicly and non-publicly available information.

Eminent Domain: The power of a governmental entity to take private property for a public use, subject to just compensation.

ERISA or **Employee Retirement Income Security Act of 1974, as amended:** A federal statute that regulates all qualified private pension plans and employee benefit plans in the U.S. and created the Pension Benefit Guaranty Corporation. { see Prudent Expert Rule}

ETF: Exchange Traded Fund.

Event Risk:

- Before 9/11/2001, the risk that an event will decrease the credit quality of an issuer's fixed income instrument.
- Post 9/11/2001, a colloquial, catch-all phrase for the risk(s) related to terrorism and similar acts.

Exempt or **Exempted Securities:** Securities issues that are not subject to the registration requirements of the Securities Act of 1933 or the reporting requirements of the Securities Exchange Act of 1934, including Treasury Securities, agency Securities and municipal Securities.

[the] Factor (aka **Pool Factor):** See Paydown Factor.

FAD: {see Cash Available for Distribution}

Fair Dealing: A standard of conduct that requires acting with Full Disclosure such that, although a participant receives a benefit, all the interested parties are apprised fully of the potential and of all other Material information about the transaction, and not engaging in any deceptive, dishonest or unfair practice.

The requirement under MSRB Rule G-17 states that all Securities Broker-Dealers deal fairly with all persons.

Fair Disclosure: The standard of conduct that requires equitable, impartial, simultaneous, timely and unprejudiced access to the same information that may be incomplete. {see Full Disclosure}

Fair Housing Act: A federal law enacted in 1968 and subsequently amended that includes fair lending requirements for mortgage loans and prohibitions against illegal discrimination in the financing, rental or sale of housing and in the provision of brokerage and appraisal services.

Fairness: The standard of conduct and principle that all covered persons (e.g. Applicants and Candidates) will be treated in an equitable manner throughout the entire covered process (e.g. the CRI Society Certification process of an Applicant and Candidate).

FAR: Floor area ratio.

Farmland: {see REIS Glossary, Property Type, Farmland www.ncreif.com/resources/glossary.phtml?range=p-z}

FASB Statement No. 13: FASB issued in 1976 and subsequently revised Financial Accounting Standard 13. It establishes standards of financial accounting and reporting for leases by lessees and lessors. For lessees, a lease is a financing transaction called a capital lease if it meets any one of four specified criteria; if not, it is an operating lease. Capital leases are treated as the acquisition of assets and the incurrence of obligations by the lessee. Operating leases are treated as current operating expenses. For lessors, a financing transaction lease is classified as a sales-type, direct financing, or leveraged lease. To be a sales-type, direct financing, or leveraged lease, the lease must meet one of the same criteria used for lessees to classify a lease as a capital lease, in addition to two criteria dealing with future uncertainties. Leveraged leases also have to meet further criteria. These types of leases are recorded as investments under different specifications for each type of lease. Leases not meeting the criteria are considered operating leases and are accounted for like rental property.

FASIT: Financial Asset Securitization Investment Trust.

Feng Shui: (pronounced "fung schway") the art and science of constructing buildings and arranging furnishings to create environments that are aesthetically pleasing and encourage the positive flow of energy, or ch'i. It is a fundamental belief that an environment with good ch'i can bring happiness and prosperity.

{see Feng Shui and Corporate Architecture www.aia.org/ca_a_fengbalancingact}

FF&E: Furniture, Fixtures, and Equipment (referred to as tangible personal equipment plus trade fixtures and leasehold improvements).

FFO: {see Funds from Operations}

Fiduciary Duty: The standard of conduct concerning a relationship of trust that requires an entity to act with discretion and undivided loyalty in the best interests of the beneficiary and to maintain the beneficiary's confidences. {see Conflict of Interest}

Fiduciary Participant: is a Service Professional who:

- maintains knowledge of and complies with all applicable laws, rules, regulations, standards of conduct and statutes
- deals fairly in any market or marketplace
- uses relevant competence and independent, objective judgment
- preserves the confidentiality of client materials and nonpublic information
- discloses fully to a customer and to a client any material conflicts of interest
- acts as a Prudent Expert in the best interests of a client
- has a reasonable basis and supporting documentation for a recommendation in a research report and financial analysis

Fiduciary Relationship: The standard of conduct concerning any relationship wherein a person is under a duty to act for the benefit of another within the scope of the relationship. The relationship can arise when:

- a person places trust in the integrity of another person who gains superiority or influence over the first
- a person assumes control and responsibility over another
- a person has a duty to act for or give advice to another on matters within the relationship
- there exists a specific relationship that traditionally has been recognized as involving Fiduciary Duty.

Financial Guaranty Insurance: A descendant of suretyship that generally is recorded as surety on the annual statement that an insurer files with its regulator. Payable losses include: the failure of an obligor on a debt instrument or other monetary obligation to pay principal, interest, purchase price or dividends when due as a result of default or insolvency (including corporate or partnership obligations, guaranteed stock, municipal or special revenue bonds, asset-backed securities, consumer debt obligations, etc.); a change in interest rates; a change in currency exchange rates; or a change in the value of specific assets, commodities or financial indices.

Firm-Opportunity Doctrine: In a partnership, the established and authoritative standard that a control group person, including an employee, shall not use any Insider Information for their personal advantage. {see Corporate-Opportunity Doctrine}

FIRREA: Financial Institutions Reform, Recovery and Enhancement Act.

[The] **Five C's of lending:** An informal reference to Real Estate, underwriting criteria, that typically may include:

1. **Character:** the community reputation of an issuer (e.g., a mortgagee's debt repayment history, competency to operate the investment business and standard of Ethical conduct) {see ELMS®, Ethical action}
2. **Collateral:** the pledged security against a debt (e.g., the value of the property that secures a mortgage) {see LTV}
3. **Cash:** the cash-equivalent assets owned by the issuer (e.g., an mortgagee's cash equity)
4. **Credit:** the ability of an issuer to borrow funds and the faith in the issuer's ability to pay obligations
5. **Client:** the Investment Policy Statement of the source of funds (e.g., the ultimate beneficiary of the investment, when an intermediary is acting as a Fiduciary investor)

Other criteria, beginning with the letter C, include:

- **Callable:** whether or not the investment is redeemable by the issuer before maturity
- **Capitalization:** the composition of debt and equity funds used to finance an investment and the investment's business
- **Capitalization (**or **Cap) Rate:** the interest rate used to calculate the present worth of future benefits (e.g., a property's net operating income divided by it value)
- **Cash Flow:** the quantity, quality and duration of the cash generated from an investment's business to pay all of the business and investment obligations {see Cash-on Cash Return, Cash Available for Distribution, DSCR}
- **Cashout:** the issuer's receipt of its entire equity in cash (e.g., a mortgagee has zero retained investment in its mortgaged property)
- **Civil vs. Criminal Law:** the difference between the object of redress by compensation and the object of wrongdoer punishment (e.g., is a lender's error punishable by financial restitution or imprisonment); {see SOX}
- **Chain of Title:** the ownership history of a piece of land {see CERCLA}

- **Chattel Lien:** a mechanic's lien {see Bundle of Rights}
- **Conflicts of Interest:** {see definition, above}
- **Construction:** the construction quality
- **Conversion:** the ability to change an asset or liability into a different form (e.g., convert an illiquid whole mortgage into a liquid and easily marketed MBS)
- **Caveat Emptor:** "let the buyer beware" (e.g., what is the backdoor/exit if an investment fails)

5 Minute Handling Capacity: The number of people transported by an elevator from the lobby in a five minute period, expressed as a percentage of the population (or the estimate number of people occupying the floors above the lobby). A 12% Handling Capacity means the elevator system can accommodate incoming passenger traffic up to 12% of the population before lobby crowding occurs. This measurement is an estimate of how many people arrive to use the elevators during the heaviest five minutes of morning rush hour.

Flood Hazard Insurance Map: A map published by the Federal Insurance Administration for a specific community that indicates areas within the community that are subject to severe flooding. These maps are the basis for requiring a community to join the National Flood Insurance Program. If a community does not join the program, it may lose federal disaster relief in the event of flooding.

Flood Insurance: Insurance that reimburses the policyholder for damage to property caused by the peril of flood.

FPM: Feet per minute measurement of elevator speed.

Front-Running (aka **Forward Trading):** An illegal activity in which an entity takes a position in an instrument in advance of an action which it knows its brokerage will move the instrument's price in a predictable fashion. Includes any entity's trading an asset, instrument or Security based on information from the analyst department before his or her clients have been given the information.

Scalping is a related illegal activity wherein an entity purchases (or sells) an instrument for its clients for the sole purpose of increasing (or decreasing) the value of the same instrument held (or to be held) in the entity's personal account.

To profit from prior knowledge of uninformed trades an entity must **Back-Run** its actions; Front-Running is only incidental and often unnecessary. An entity can profit illegally by following uninformed fund sales with its personal purchases and following uninformed fund purchases with its personal sales. That is, to profit from clients' sales, an entity must buy immediately after the fund sells before the price returns to its full information level. To profit from funds' buying, managers must sell immediately afterwards.

Full (or **Full and Fair) Disclosure:** The standard of conduct that requires accurate, complete, impartial, ongoing, prominent, simultaneous, timely, truthful, understandable, unbiased and unprejudiced revelation of all Material facts. Some authors require the inclusion of both "full" and "fair"; herein, any absence of Fair Disclosure is a Material fact that is revealed in a Full Disclosure.{see Asset Manager, Conduct in Appendix C}

Funds from Operations (FFO): A REIT's net income, excluding gains or losses from sales of property, and adding back real estate depreciation

GAAP: Generally Accepted Accounting Principals.

Geometric Return, Geometric Mean Return (GMR) or **Time Weighted Return:** is used to measure investment performance, because it is not distorted by the timing of investment contributions, return payments or negative returns. It measures the compound rate of growth of the initial portfolio during the performance-evaluation time period, assuming that all cash distributions are reinvested in the portfolio. It calculates the geometric average of the portfolio's Total Returns (TRs).

- The formula is:
  $GMR = [(1+ R_{p1}) \times (1+ R_{p2}) \times (1+ R_{pN})]^{1/N} - 1$
  where R_{p1} is the TR for interval 1, and
  N is the number of intervals in the performance-evaluation period.
- given monthly TRs of -10%, 20% and 5%, the GMR equals 4.28% per month, or
  $[(1 – 10\%) \times (1 + 20\%) \times (1 + 5\%)]^{1/3} – 1$
- given the following portfolio data
  12/31/2000 value is $100
  12/31/2001 value is $200
  12/31/2002 value is $100
  the annual TRs are 100% and -50%, respectively,
  the GMR formula is $[(1 + 100\%) \times (1 - 50\%)]^{1/2} -1$
  the GMR is 0%.

{see IRR, Internal Rate of Return}

Going-Concern Value: The aggregate market value of all of an established and operating entity's tangible and intangible (including Goodwill) assets as an operating business with future earning power to another company or person.

Goodwill: The Going-Concern Value of an entity in excess of its asset value; Goodwill is an intangible asset and includes the value of the business' good name, customer relations, high employee morale, and other factors that might translate into earning power. NASDAQ's calculation of net Tangible Asset Value excludes Goodwill.

Gross Absorption: An academic term that measures the volume of rental activity and demand for leasing brokerage. It measures the total space leased in a period of time. Since it does not identify or differentiate the source of the tenant (e.g. whether a tenant has moved within the market by vacating one site and occupying another site), it does not measure growth in the market's total occupied space or total demand for space. Net Absorption does measure a market's demand growth. {see Net Absorption}

GSE: Government sponsored entity.

Guaranteed Investment Contract (GIC): An investment that is secured by a contract with a financial institution and guarantees a fixed rate of return and a fixed maturity.

Highest and Best Use (aka **Best Use** and **Most Suitable Use):** The appropriately supported, physically possible, legally permissible, financially feasible, maximally productive and reasonably probable application or employment of something that will generate the most profit.

Implementation Activities: Any Real Estate service.

Indenture: A written agreement between the issuer of a debt Security (e.g., a Bond or Debenture) and its debt holder(s), usually specifying interest rate, maturity date, convertibility and other terms.

Industrial Development Bond (IDB): A revenue Bond whose interest and principal payments are not backed by a municipality and whose proceeds are loaned directly to a private user to finance a qualifying facility.

Industrial Property: Property used for light or heavy manufacturing, research and development (R&D) or warehouse space, includes office/warehouse space and flex space. {see REIS Glossary, Property Type, Industrial www.ncreif.com/resources/glossary.phtml?range=p-z}

Insider: A person or entity that has access to or knowledge of information that is not available to other investors or the public. Includes one who participates in the control of an entity (e.g., a director, general partner, governor, officer or owner 10% or more of an entity's voting equity or stock) or receives Insider Information while performing its professional service for a Client.

Insider Information: Material, Nonpublic information received through a Fiduciary Duty, including through a source that owes a person or an entity a duty to keep the information confidential.

Insider Trading: (i) In general, the use of Material, Nonpublic information in trading an entity's asset(s) by an Insider or other person who owes a Fiduciary Duty to the entity; (ii) In illegal conduct, any deceitful acquisition and misuse of information that properly belongs to an entity that one owes a Fiduciary Duty.

Illegal "manipulative and deceptive devices" include the purchase or sale of a Security of any issuer, on the basis of Material Nonpublic information about that Security or issuer, in breach of a duty of trust or confidence that is owed directly, indirectly, or derivatively, to the issuer of that Security or the shareholders of that issuer, or to any other person who is the source of the Material Nonpublic information. A purchase or sale of a Security of an issuer is "on the basis of" Material Nonpublic information about that Security or issuer if the person making the purchase or sale was aware of the Material Nonpublic information when the person made the purchase or sale.

Interest Rate Swap: A financial agreement between two parties to exchange the future cash flows from a combination of currency swaps in the same currency.

- **Plain Vanilla (Interest Rate) Swap:** An Interest Rate Swap wherein a party agrees to make payments based on a fixed interest rate and the counterparty agrees to make payments tied to a floating interest rate, with both sets of payments in the same currency.

International Valuation Standard: Standards for valuation in financial reporting pursuant to the new Basel Accord. Published by the International Valuation Standards Committee. {see www.ivsc.org}

Inverted, or **Negative, Yield Curve:** A graph of interest rates wherein the short-term Securities have higher rates than the long-term Securities.

Investment Advisors Act: A federal statute enacted in 1940 and subsequently amended that regulates investment advisers. With certain exceptions, this Act requires that firms or sole practitioners compensated for advising others about Securities investments must register with the SEC and conform to regulations designed to protect investors.
{see www.sec.gov/about/laws/iaa40.pdf}

Investment Constraints: An investor's time horizon, amount of capital investment, frequency of capital investment, legal restrictions, liquidity requirements, Diversification statement, current income needs, tax status, inflation protection requirement, deflation protection requirement, Corporate Governance standard, currency exposure requirement, management capability (e.g., strategic Asset Management and tactical Property Management), terrorist event exposure and other idiosyncratic preferences (e.g., environmental, Feng Shui, labor union, political, tobacco).

Investment Decision-Making: The strategic determination of the investor's Investment Policy Statement

Investment Implementation: The execution of the Investment Policy Statement through Service Professionals, including:

- asset allocation
- security (or individual asset) selection {see ELMS®, Location}
- asset acquisition
- asset structuring {see ELMS, Structuring}
- investment management {see ELMS, Management}
- investment sale
- performance evaluation
- monitoring relative asset class and sector values
- monitoring the market's latest conditions
- monitoring the investor's current investment objectives and constraints
- rebalancing the asset allocation for monitored changes

Investment Objectives: Each investor's unique set of Investment Return Objectives and Risk Tolerance Objectives.

Investment Performance: An investor's actual total return, current return, appreciation return and the actual volatilities of those returns. {see Investment Return}

Investment Policy Statement: Each investor's unique set of Investment Return Objectives, Risk Tolerance Objectives and Constraints and plan for Investment Implementation.

Investment Return Objectives: The total return, current return and appreciation return goals of an investor.

Investment Return: An investment's total return, current return and appreciation return. {see Investment Performance}

Investment Return Insurance: Insurance against the risk of loss for the value of the redeemable Securities of an insured investor.

Investment Risk Tolerance Objectives: An investor's capital preservation goals, as measured by the volatility of the Investment Return Objectives that is acceptable to the investor. Volatility includes maximum, minimum, frequency and skew of change.

Investment Styles: A grouping of investment performance for comparison and to perform Performance Attribution Analysis. Investment Style terminology is source dependent. Some alternative, sample, whole equity real estate classifications include:

- **NCREIF's database methodology:** property type; geography; occupancy; and size
- **Life Cycle:** pre-development, development, initial leasing, operating and redevelopment
- **leveraged/unleveraged**
- **Return/Risk Balance:** core; value-added; and opportunistic {see NCREIF's White Paper, *"Real Estate Investment Styles – Trends from the Catwalk"*, pages 9 - 12 and 16 - 18 www.ncreif.org/committees/pdf/2004-02-01_portfolio_minutes.pdf}

IO: Interest-only Security.

IPO: Initial public offering.

IRR or **Internal Rate of Return** or **Dollar Weighted Return:** Not used to measure and compare investment performance, because it is distorted by the timing of the investment contributions and return payments. {see Geometric Return}

Interval: The seconds between elevator departures from the lobby during morning up peak. A 30 second interval means that a loaded car will leave the lobby every 30 seconds. The interval is equal to the round trip time divided by the number of elevators.

Land (or **Surface) Subsistence:** The sinking of the ground surface above an underground void or depression. Examples include foundation subsistence, mine subsistence and Sinkholes. {see Deep Mining}

Leasehold: A tenant's possessory estate in land or premises by the tenancy for years, periodic tenancy, tenancy at will or tenancy at sufferance.

LIBOR: London Interbank Offered Rate.

Lien: A creditor's legal right or interest in another's property until satisfaction of the debt or duty. Examples include accountant lien, architect's lien, attorney's lien, banker's lien, hotelkeeper's lien, landlord's lien, mechanic's or construction lien, mortgage lien, municipal lien, statutory lien, tax lien, vendee's lien and vendor's lien.

- A Junior Lien is subordinate to another lien on the same property.
- A Prior Lien was perfected before and is therefore superior to another lien on the same property.
- A Senior Lien has priority over another lien on the same property.

Limited Partnership: An unincorporated association that is a Direct Participation Program, conforms to the provisions of the Revised Uniform Limited Partnership Act or similar statute and has one or more general partners who are personally liable for the partnership's debt and one or more limited partners who contribute capital, share benefits, cannot manage the business and are liable only for their contribution.

Limited Partnership Investor Bond Insurance: A form of Financial Guaranty Insurance that guarantees fulfillment of the obligations of a person investing in a limited partnership. If the person ceases making payments, the insurer will pay the outstanding amount in installments over the remaining payment period. The insurance is irrevocable and will remain in full force until all of the insured obligations are paid.

LLC: Limited liability company.

Load: The capacity rating in pounds that an elevator is designed to safely handle.

Location Quotient: A calculated ratio between the local economy and the economy of some reference unit that. This ratio is calculated for all industries to determine whether or not the local economy has a greater share of that industry than expected. If an industry has a greater share than expected of a given industry, then that "extra" industry employment is assumed to be "Basic" because those jobs are above what a local economy should have to serve local needs. For example:

(Boston legal employment / Boston total population)
divided by
(East coast legal employment / East coast total pop.)

Loss Payee: The entity named in an insurance policy's loss payable clause to which insurance proceeds are to be paid in the event of damage to the insured property. The loss payee must have an insurable interest. Loss payees include the mortgagee.

LTV (or **L/V):** Loan to value is the ratio between a mortgage loan's principal balance and the current value of the underlying real estate collateral.

Market Allocation: One of the three primary classifications of Active Real Estate Management. The ability to add value to a portfolio by weighting, or changing the percentage, of the portfolio that is invested in each market segment (e.g., property type, economic region). If the Market Allocation is based on the benchmark portfolio, the manager is using Market Timing and seeking to improve portfolio performance by buying (or selling) property in markets and of specific types that are anticipated to outperform (or underperform) the market. {see capitalized terms}

Market Timing: One of the three primary Performance Attribution classifications for the type of investment decision. The investment policy decision to deviate from long-term policy (i.e., Strategic Asset) allocations to asset classes or investment styles within asset classes because the Manager believes it can predict correctly short-term market movements. Market Timing includes Tactical Asset Allocation and Style Rotation.

Market Value: The most probable price in terms of money that a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulants. Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from the seller to the buyer under conditions whereby:

- Buyer and seller are typically motivated.
- Both parties are well informed or well advised and acting in what they consider their own best interest.
- A reasonable time is allowed for exposure in the open market.
- Payment is made in cash in U.S. dollars or in terms of financial arrangements comparable thereto.
- The price represents a normal consideration for the property sold unaffected by special or creative financing or sale concessions granted by anyone associated with the sale.

Master Servicer: A firm engaged on behalf and for the benefit of the certificate holders to service the mortgage loans collateralizing a CMBS. Its responsibilities and obligations are stated in a Pooling and Servicing Agreement ("PSA"). {see Special Servicer and Sub Servicer}

Material: Any fact whose disclosure would significantly influence an investment's trading or market value; an omitted fact is Material if there is a substantial likelihood that a reasonable entity (e.g., an investor) would consider it important in making an investment decision. In general usage, any knowledge that would affect an entity's decision-making.

Materiality: The auditor's consideration of materiality is a matter of professional judgment and is influenced by his or her perception of the needs of a reasonable person who will rely on the financial statements. The perceived needs of a reasonable person are recognized in the discussion of materiality in FASB Statement of Financial Accounting Concepts No. 2, Qualitative Characteristics of Accounting Information, that defines materiality as "the magnitude of an omission or misstatement of accounting information that, in the light of surrounding circumstances, makes it probable that the judgment of a reasonable person relying on the information would have been changed or influenced by the omission or misstatement." That discussion recognizes that materiality judgments are made in light of surrounding circumstances and necessarily involve both quantitative and qualitative considerations.

MBS: Mortgage-Backed Security.

Mcf: A thousand cubic feet is the normal pricing unit for natural gas (e.g., in the 2000 – 2001 heating season natural gas prices ranged from approximately $2 to $10 per Mcf).

Mezz (or **Mezzanine) Debt:** Any debt that is paid after a first mortgage. Often refers to a short term second or third mortgage that will be taken out (paid off or earned out) in the short term upon changes in property performance. The term "mezzanine" implies temporary indebtedness, but a long-term second mortgage is technically mezzanine debt.

Mineral Lease: Used to grant a Mineral Right.

Mineral Right: The right to look for, develop and extract a mineral or ore (e.g., coal, natural gas and oil) from the ground or to receive a royalty from the Mining production.

MPT or **Modern Portfolio Theory:** An investment and portfolio management proposition that focuses on the total performance of an entire portfolio, rather than solely considering the prudence of a single investment in the portfolio. {see ERISA}

Mortgage Constant or **the Constant:** The quotient calculated by dividing the current outstanding principal balance of the mortgage, the denominator, into the sum of the interest and principal payments, the numerator. It is the relationship of the current mortgage balance divided into the current return on plus the return of principal. For an amortizing mortgage, the relationship is not fixed; the quotient increases with each amortizing principal repayment. In this formula, the interest rate used to calculate the interest payment is the cost of the mortgage. Normally the quotient is annualized by multiplying 12 times the result using the monthly debt service and mortgage balance.

MPS or **Minimum Property Standards:** Establish certain minimum standards for buildings, including new single family homes, multi-family housing and health care facilities, constructed under HUD housing programs.

Multifamily Property: A building with five or more residential units or apartments. Multifamily properties are usually distinguished as high rise, low rise, or garden apartments. Multifamily properties are typically distinguished by quality as follows:

- **Class A Properties** are above average in terms of design, construction and finish; command the highest rental rates in the market; have a superior location in terms of desirability and/or accessibility; and generally are professionally managed by national or large regional management companies.
- **Class B Properties** frequently do not possess design and finish reflective of current standards and preferences; illustrate adequate construction quality; command average rental rates in the market; are generally well-maintained; have unit sizes that are somewhat larger than current standards; and are managed by national or regional management companies.
- **Class C Properties** provide functional housing; exhibit some level of deferred maintenance; command below-average rental rates; are usually located in less desirable areas; are occupied by tenants who provide a less stable income stream to property owners than Class A and B residents; and generally are managed by smaller, local property management companies.

{see REIS Glossary, Property Type, Residential www.ncreif.com/resources/glossary.phtml?range=p-z}

Municipal Bond Guaranty Insurance: A form of Financial Guaranty Insurance that protects bondholders against default by a municipality. Introduced in the early 1970s, municipalities embraced it because their insured Securities took on the insurer's (AAA) credit rating and commanded a higher price.

NCF: Net cash flow.

Net Absorption: An academic term that measures the net change in a market's occupied space. Market vacancy declines when Net Absorption exceeds net construction completions; conversely, vacancy increases when Net Absorption is less than net construction completions. Comparing Net Absorption to net construction completion shows whether demand and supply have the same rate of change. {see Gross Absorption}

Net Asset Value or **NAV:** An entity's total assets minus its total liabilities, generally calculated at least once every business day on a single share basis (or the "per share NAV") by dividing its NAV by the number of shares that are outstanding. The share price of mutual funds and traditional UITs is based on their NAV.

NFIP or **National Flood Insurance Program:** A program administered by the Federal Insurance Administration that provides flood insurance under the National Flood Insurance Act of 1968. Private insurers, under contract to the NFIP, administer the program, issue the program's Standard Flood Insurance Policy, collect the premium, and adjust the losses. They are reinsured for 100% of any flood losses by the federal government and receive a percentage of the premium for commissions, taxes, and allocated loss adjustment expenses.

NNN: Net, Net, Net (or triple net). Terminology to describe a lease in which the tenant is responsible for all real estate property operating expenses and capital items.

NOI: Net operating income.

Nonpublic: Information is Nonpublic if it has not been disclosed broadly to the marketplace and is not reasonably available to investors. Information is still Nonpublic if it is disclosed only to a selected group. {see Insider Information}

Normal, or **Positive, Yield Curve:** A graph of interest rates wherein the short-term Securities have lower interest rates that the long-term Securities.

NRSRO: Since 1975 the U.S. Securities and Exchange Commission has relied upon the use of credit ratings issued by nationally recognized statistical rating organizations ("NRSROs") in its rule 15c3-1 Net Capital Rule as an indication of a Security's liquidity.

Offering: The act of making a presentation of something (e.g., a Security or cash) for acceptance (e.g., purchase or sale). The sale of any Security.

Office Property: Property designed to be used principally as a place of business. Office properties include major multi-tenant-CBD, multi-tenant-suburban, single tenant-built to suit, or a combination office/showroom.

- **Government Office Building** is owned and/or at least 90% leased by public sector agencies.
- **Medical Office Building** consists of 90% or greater medical tenancy.
- **Multi-tenant Office Building** has multiple lease obligations and less than 90% of which are owner occupied.
- **Owner Occupied Office Building** is at least 90% occupied by its owner.
- **Single-tenant Office Building** is a single lease obligation or is 100% owner occupied.

Note: The building descriptions may vary with the source.

{see NAIOP's Definitions of US Office www.naiop.org/services/usofficeterms.pdf and REIS Glossary, Property Type, Office (NAIOP) www.ncreif.com/resources/glossary.phtml?range=p-z}

One-Action Rule: The general, debtor-creditor legal principle that when a debt is secured by real estate, the creditor must foreclose on the collateral before proceeding against the debtor's unsecured assets. Use of this rule is not uniform and varies substantially from state to state.

Opportunity Cost: The true economic cost of an action includes not only the explicit cost of the activity, but also the implicit value of any other opportunity that must be foregone by undertaking the activity. It is an economist's measurement of cost in a cost-benefit analysis. For example:

A person:

- is given a free ticket, that is nontransferable and has no resale value, to attend Event One;
- has a next-best alternative activity of attending Event Two, that is at the identical time and has a ticket cost of $50

and

- normally would be willing to pay up to $60 for a ticket to attend Event Two

Given that there are no other costs of attending either Event, what is the person's Opportunity Cost for attending Event One?

A. $0
B. $10
C. $50
D. $60

The Key, or correct answer, is B ($10), the total value of everything the person must forgo to attend Event One (i.e., the $60 Event Two is worth to the person minus the person's $50 cost to attend Event Two). The Distracters are A ($0), C ($50) and D ($60).

Overburden: The rock and soil overlying a mine.

Overcollateralization Test: An analysis of the Par amount of collateral relative to the debt issued by a Special-Purpose Entity, or SPE. Failure of this test normally results in the sequential return of principal to the SPE liabilities.

Par Value or **Par (**aka **Face, Nominal** or **Stated Value** or **Amount):** The notational amount stated on the face of an instrument.

Paydown Factor (aka **the Factor** or **Paydown):** The percentage of an original mortgage pool balance that is still outstanding. It is normally updated and reported monthly to an accuracy of seven decimal places and begins at 1 and decreases to 0 over the life of the mortgage security. The difference between the actual Factor and the expected Factor is analyzed to determine Prepayment level and calculate the Prepayment rate.

Pay-to-Play: (i) An inappropriate practice whereby a market participant is expected to make political contributions to elected officials in order to be considered for selection to provide underwriting or other services. MSRB Rule G-37 was adopted to prevent Pay-to-Play practices; and,

(ii) Any non Transparent, unfair or anti-Fiduciary Duty action wherein a benefit is exchanged for a favor, including but not limited to designating charitable contributions and assigning business opportunities in exchange for a nomination or appointment to any for profit or non profit committee, board or officeholder position.

PBGC or **Pension Benefit Guaranty Corporation**: was established under ERISA.

Performance Attribution (aka **Attribution Analysis):** The decomposition of an historical Total Return and classification of its components with the type of investment decision (i.e., Strategic Asset Allocation, Market Timing and Asset Selection) and decision maker (i.e., Plan Sponsor and Investment Manager).

The following table is an Attribution Analysis of Monthly Returns.

Decision Maker	Type of Policy	Investment Timing	Decision Selection	Total
Sponsor:	0.900%	0.025%	-0.005%	0.920%
Manager:	______	0.015%	-0.155%	-0.140%
Total:	0.900%	0.040%	-0.160%	0.780%

{see Strategic Asset Allocation and Market Timing}

Performance Evaluation: The investor's methodology for monitoring, measuring, benchmarking, attributing and reporting its Investment Performance. {see Performance Attribution Analysis}

Phase I Report or **Environmental Site Assessment (ESA):** A professionally prepared, assessment and report (to ascertain the presence of environmental hazard(s) and to recommend whether an investigation (Phase II) is justified.

PIPE (Private investment in public entity): A PIPE transaction is the direct purchase, usually a discount to the market price, of publicly listed or soon-to-be listed shares.

PITI: Principal, interest, taxes and insurance are normal components of a monthly mortgage payment.

PO: Principal-only Security.

Point: One percent of Par Value. {see bp}

Ponzi Scheme: An illegal Pyramid Scheme named for Charles Ponzi, who duped thousands of New England residents into investing in a postage stamp speculation scheme in the 1920s. Based on the "rob-Peter-to-pay-Paul" principle, money from new investors is used to pay off earlier investors until the whole scheme collapses. {see Pyramid Scheme}

Pooling and Servicing Agreement: A contract entered into with the trustee that governs much of the CMBS process, including the responsibilities and the obligations of the Master Servicer and the Special Servicer, e.g.:

- collect mortgage payments and transfer the collected funds to the trustee, who distributes them to the certificate holders
- advance any late payments to the trust
- provide mortgage performance reports to bond holders
- refer all loans that are in default or likely to be in default soon to a Special Servicer
- interpret and enforce the specific terms of each loan in the pool

The acronym "PSA" is used by the mortgage industry to mean both "Pooling and Servicing Agreement" and "Public Securities Association".

Portfolio Management Process: The feedback loop of an investor's:

- return objectives, risk tolerance objectives, constraints and the current and expected market conditions (collectively the "Inputs")
- portfolio investment strategy determination and implementation
- performance evaluation
- monitoring the Inputs and investment strategy
- modifying the portfolio investment strategy and
- rebalancing the portfolio asset allocation

Preliminary Official Statement (POS): aka a Red Herring or Prospectus includes information about the issuer and on the Securities underwriting.

Prepayment: The difference in the actual balance of a debt (e.g., a mortgage) compared with the balance expected by normal payment (e.g., amortization).
For single-family residential MBS pools (and for other similar debt securities subject to Prepayment), the:

- Prepayment causes include:
  1. moving (e.g., Household relocation is increased by employment change, marriage, divorce, child birth)
  2. default on a loan and other voluntary Prepayments (e.g., insurance payments);
  3. refinancing
  4. curtailments (i.e., Additional principal payments that retire a loan before its original term curtail, or shorten, the term of the mortgage)
- Prepayment determinants are:
  1. age of a loan and
  2. coupon rate of a loan.

  {see WAC, WAL, WAM and Prepayment Factor}
- Prepayments are forecast by analyzing:
  1. interest rate levels (e.g., Prepayments accelerate as the ratio of the pool WAC to the current coupon yield, or WAC/CC, increases above 1)
  2. aging (e.g., Prepayments increase at a steady rate and then level off at a peak CPR)
  3. burnout (e.g., Prepayments initially increase as interest rates decline and then decrease; they decline at very high WAC/CC ratios)
  4. seasonality (e.g., Prepayments are faster in the summer versus the winter months)
  5. housing markets, (e.g., Prepayments are depressed by declining house prices, unemployment and weak economic activity
  6. yield curve shape (e.g., Prepayments increase as borrowers refinance into shorter maturity loans in a steep Yield Curve environment)

Prepayment comparisons are at the pool-level and commonly described using the following conventions:

- SMM
- CPR
- PSA

Prescription: The effect of the lapse of time in creating and destroying rights. The acquisition of title by open and continuous possession over a statutory period of time. The extinction of a title or right by failure to claim or exercise it over a long period.
{see ALTA Glossary, page 16 of 23, "Prescription" www.alta.org/consumer/ltiglossary1.pdf}

Property Management: is the tactical implementation of (short term) operational decisions in accordance with a property owner's Investment Return Objectives and Constraints. The operation of property as a business, including leasing, rent collection, maintenance of the property, and general administration.

Property Selection: One of the three primary classifications of Active Real Estate Management. The ability to add value to a portfolio by selecting and buying or selling mispriced, individual properties that are expected to outperform or to underperform the overall market segment benchmark.

Prudent Expert: The standard of conduct that requires a fiduciary to act in the best interests of a Client with the care, diligence, prudence and skill under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims. The Prudent Expert is held to the standard of a person who is familiar with the subject matters, that is higher than the standards of:

- **Ordinary Business Care**, i.e.
  1. exercising ordinary and reasonable care
  2. using honestly and good faith
  3. acting prudently

  in the circumstances prevailing at the time of the investment decision or action, and a
- **Prudent Man,** i.e. managing the entrusted assets with the care and discretion of a prudent man, including the
  1. avoidance of undue risk
  2. preservation of capital
  3. acting in the best interests of the beneficiary

  (collectively, the **Prudent Man Rule**).
  {see Prudent Expert Rule}

Prudent Expert Rule: The standard of conduct that requires fiduciaries, who manage investments governed by ERISA, to act as a Prudent Expert would act. {see ERISA and Prudent Expert}

Prudent Investor Rule: A current and widely accepted fiduciary application of the Prudent Man Rule that uses Modern Portfolio Theory to apply the prudence standard to the entire portfolio rather than to individual investments. This standard of conduct focuses the fiduciary's

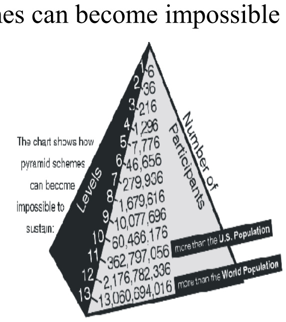
Investment Decision-Making on the trade-off between return and risk. {see Investment Objectives}

PSA (Public Securities Association) Standard Prepayment Model: A standard Prepayment model for residential MBS developed in the 1980's by the Public Securities Association (PSA) and various Wall Street firms. It specifies a standard Prepayment percentage (in terms of an annual percentage) each month from origination through the thirtieth month. Thereafter, the repayment rate remains constant. The base is at 100% PSA, or the annual Prepayment rate is 0.2% Constant Prepayment Rate (CPR) the first month, 0.4% CPR the second month, increasing each month by 0.2% CPR until the thirtieth month at 6% CPR (30 X 0.2%). Thereafter, the Prepayment rate is held constant at 6% CPR. To determine the Prepayment rate for any PSA scenario, multiply the corresponding CPR at 100% PSA by the given PSA rate, e.g., for 200% PSA at the fourth month, 4 X 0.2% CPR X 200% = 1.6% CPR. The general PSA formula is:

$$\textbf{PSA} = 100 \ \text{x} \ [\text{CPR} / \min(\text{age}, 30) \ \text{x} \ 0.2]$$

Pyramid Scheme: The organizers attempt to make money [or to create immediately expendable funds] solely by recruiting new participants into the program. The hallmark of these schemes is the promise of sky-high returns in a short period of time [or of long term retirement, medical or other financial benefits] for doing nothing other than handing over your money and getting others to do the same [and permitting the organizers imprudently to under fund the growing benefit obligations].

The fraudsters behind a Pyramid Scheme may go to great lengths to make the program [or fund] look like a legitimate multi-level marketing program [or insurance plan or trust]. Despite their claims to have legitimate products or services to sell [or invest in], these fraudsters simply use money coming in from new recruits to pay off early stage investors [or contributors]. Eventually the pyramid will collapse, because the schemes get too big and the promoter cannot raise enough money from new investors to pay earlier investors causing many people to lose their money [or increasingly receive less than their invested contributions]. The chart below shows how Pyramid Schemes can become impossible to sustain:



Rate Lock: The process that enables a borrower to fix, or Lock, a mortgage interest rate prior to the closing.

Real Estate: Real estate herein is the Bundle of Rights, or all the benefits, claims, interests, liabilities, obligations, powers, privileges, promises, protections, restrictions and rights related to a defined volume of space over a specified period of time in the global marketplace. It includes corporeal, or physical, and incorporeal, or conceptual, existence. No distinction is made, herein, between Real Estate and Real Property.

Real Property: herein synonymous with Real Estate.

Rebalancing (or **Reallocating) the Asset Allocation:** is the:

- Analysis of monitored investment feedback, and
- Adjustment of an investment portfolio's Asset Allocation to optimize Investment Performance, because a Material change or deviation was monitored in an investment variable. {see Investment Implementation} Adjustments include:
    1. asset sale
    2. asset re-structuring (e.g., recapitalization) {see ELMS®, Structuring}
    3. asset acquisition
    4. change in property and/or asset management

Realty: See the definition of Real Estate, above.

REIT: Real Estate Investment Trust is a U.S. Congress legislated tax election that permits a qualifying, specially formed corporation or partnership to invest in real estate and/or Securities backed by real estate and not to be taxed at the entity level.

REMIC: Real Estate Mortgage Investment Conduit.

Repo: Repurchase agreement.

Residual Interests or **Residual Certificates**: Every REMIC must have one and only one class of residual interests, although there may be multiple owners of residual interests. All distributions of residual interests must be prorated; however, a residual interest does not have to entitle the holder to any fixed or minimum distributions in order to qualify as such. Residual interests may accrue income or cash flow in several ways, including the following:

- rate(s) differential(s) between the underlying mortgages and the REMIC regular interests
- income or cash flow resulting from over-collateralization
- buy-down reserves, sinking funds or prepaid insurance
- income from qualified reserve funds or cash flow investments in excess of what is required to service regular interests

RESPA or **Real Estate Settlement Procedures Act:** A law passed by the U.S. Congress in 1974 and subsequently amended that requires lenders to inform homebuyers and sellers about known and estimated settlement costs. It also seeks to eliminate illegal kickbacks or referral payments and to regulate escrow accounts, servicing and refinance and subordinate-lien loans. It is implemented through HUD Regulation X.

Reverse Merger: A private entity buys all or almost all of the stock of an existing, publicly listed entity.

Rise (aka **Travel):** Vertical distance from the finished floor level of the terminal landing to the finished floor of the top landing.

RMBS or **Residential Mortgage-Backed Security:** A Structure Security backed by residential mortgages.

ROS or **Research Objectivity Standards:** A standard of conduct, created by the CFA Institute, for investment firms and their employees to measure, manage and disclose conflicts of interest that may impair an analyst's ability to conduct independent research and to make objective investment recommendations. It offers compliance procedures for a firm to:

- create a research objectivity policy
- make recommendations and state opinions in public appearances
- substantiate the reasonable and adequate basis of its reports and recommendations
- conduct finance activities (e.g., advisory, debt and equity placement, and brokerage)
- compensate an investment research analyst
- manage the relationship between its analyst(s) and an debt or equity issuer whose Securities or other asset(s) are the subject of a firm report or recommendation
- govern employees' personal investments and trading
- issue timely reports and recommendations
- monitor, audit, record and enforce the compliance procedures
- disclose fully and fairly (e.g., completely, comprehensively, prominently and understandably) any firm or employee Conflict of Interest
- establish a rating system to make investment decisions

It complements and does not replace any, other, applicable, ethical or professional standard of conduct; {see: www.cfainstitute.org/standards/ethics/sellside_ROS.html}

Rule 10b-5: An SEC rule under the Securities Exchange Act of 1934 that makes it unlawful for any person, in connection with the purchase or sale of any Security, to employ any device, scheme, or artifice to defraud; to make any untrue statement of a Material fact or to omit to state a Material fact necessary in order to make the statements made, in the light of the circumstances under which they were made, not misleading; or to engage in any act, practice, or course of business that operates or would operate as a fraud or deceit upon any person.

Salvage Value (aka **Scrap** or **Residual Value):** An asset's value after it is useless to its owner.

Sarbanes-Oxley Act of 2002 (SOX): is a federal statute to protect investors by improving the accuracy and reliability of corporate disclosures made pursuant to the Securities laws, and for other purposes. A violation of the Rules of the Public Company Accounting Oversight Board ("Board") is treated as a violation of the '34 Act, giving rise to the same penalties that may be imposed for violations of that Securities Exchange Act of 1934.

- **§404**, Management Assessment Of Internal Controls,
  1. requires each annual report of an issuer to contain an "internal control report", that shall:
     - state the responsibility of management for establishing and maintaining an adequate internal control structure and procedures for financial reporting
     - contain an assessment, as of the end of the issuer's fiscal year, of the effectiveness of the internal control structure and procedures of the issuer for financial reporting. Each issuer's auditor shall attest to, and report on, the assessment made by the management of the issuer

     and
  2. directs the SEC to:
     - require each issuer to disclose whether it has adopted a code of ethics for its senior financial officers and the contents of that code
     - revise its regulations concerning prompt disclosure on Form 8-K to require immediate disclosure "of any change in, or waiver of," an issuer's code of ethics

Scalping: {see Front-Running}

Scribner Rule: In many parts of the U.S., the official Log Rule that draws a diagram of rectangles, representing 1 inch boards, within circles, representing the small-end diameters of the logs. A ¼ inch Kerf is incorporated and no allowance is made for taper.

Seasonality: The observed condition that commonly Prepayments for single-family residential mortgage loans reflect a close relation with the level of housing-market activity.

SEC: U.S. Securities and Exchange Commission.

§1031 Exchange: Typically, the sale of an investment, including an investment in real estate, is a taxable event, with the seller being responsible for capital gains taxes on the appreciation of the investment. Under §1031 of the Internal Revenue Code, however, an investor in income-producing or rental real estate may exchange the investment for another investment in income-producing or rental real estate of equal or greater value and defer payment of capital gains. In order to qualify for a deferral under §1031, an investor must acquire an interest in real estate in the exchange, not an interest in a partnership.

Securities Act of 1933, as amended: A federal law that requires Full and Fair Disclosure of the character of Securities sold in interstate and foreign commerce and through the mails, and to prevent frauds in the sale thereof, and for other purposes. It includes regulation of the registration and initial public offering of Securities. {see www.sec.gov/about/laws/sa33.pdf}

Securities Broker: Any person engaged in the business of effecting transactions in Securities for the account of others. The following persons and business will have to register as a broker, depending on a number of factors:

- "finders," "business brokers," and other persons or entities that engage in the following activities
- finding investors or customers for, making referrals to, or splitting commissions with registered broker-dealers, investment companies (or mutual funds, including hedge funds) or other Securities intermediaries
- finding investors for "issuers" (entities issuing Securities), even in a "consultant" capacity
- engaging in, or finding investors for, venture capital or "angel" financings, including private placements
- finding buyers and sellers of businesses (i.e., activities relating to mergers and acquisitions where Securities are involved)
- investment advisers and financial consultants
- foreign broker-dealers that cannot rely on Rule 15a-6 under the Securities Exchange Act of 1934
- persons that operate or control electronic or other platforms to trade Securities
- persons that market real-estate investment interests, such as limited partnership interests, that are Securities
- persons that act as "placement agents" for private placements of Securities
- persons that market or effect transactions in insurance products that are Securities, such as variable annuities, or other investment products that are Securities
- persons that effect Securities transactions for the account of others for a fee, even when those other people are friends or family members
- persons that provide support services to registered broker-dealers
- persons that act as "independent contractors," but are not "Associated Persons" of a broker-dealer

Any person acting as a broker must not engage in Securities business until properly registered.

Issuers generally are not "brokers" because they sell Securities for their own accounts and not for the accounts of others. {see the supplemental glossary for Securities Broker-Dealer Registrations and therein The Securities Exchange Act of 1934}

Securities Dealer: Any person engaged in the business of buying and selling Securities for his own account, through a broker or otherwise. This does not include a "trader," that is, a person who buys and sells Securities for his or her own account. The following persons and businesses will have to register as a dealer, depending on a number of factors:

- a person who holds himself out as being willing to buy and sell a particular Security on a continuous basis
- a person who runs a matched book of repurchase agreements
- a person who issues or originates Securities that he also buys and sells

Any person acting as a dealer must not engage in Securities business until properly registered.
Issuers generally are not "dealers" because they do not buy and sell their Securities for their own accounts. {see the supplemental glossary for Securities Broker-Dealer Registrations and therein The Securities Exchange Act of 1934}

Securities Exchange Act of 1934, as amended: A federal law that created and empowered the SEC to register, regulate and oversee brokerage firms, transfer agents, clearing agencies and the nation's Securities self regulatory organizations (SROs; e.g., the stock exchanges and the National Association of Securities Dealers) and to require periodic reporting of information by companies with publicly traded Securities. The Act also identifies and prohibits certain types of conduct in the markets and provides the SEC with disciplinary powers over regulated entities and persons associated with them. {see Sarbanes-Oxley Act and SEC's web site www.sec.gov/about/laws/sea34.pdf}

Securitization: is the process of aggregating the loans into negotiable Bonds.

Security or **Securities:** Any interest or instrument that evidences the holder's ownership, creditor or other rights in a common enterprise rather than direct participation in the enterprise.

- Any Bond; certificate of deposit for a security; certificate of interest or participation in any profit-sharing agreement; collateral-trust certificate; Debenture; evidence of indebtedness; fractional undivided interest in oil, gas, or other mineral rights; investment contract; note; preorganization certificate or subscription; any put, call, straddle, option, or privilege on any security; security future; stock; transferable share; treasury stock; voting-trust certificate; certificate of deposit, or group or index of Securities (including any interest therein or based on the value thereof), or any put, call, straddle, option, or privilege entered into on a national Securities exchange relating to foreign currency; or, in general, any interest or instrument commonly known as a ''security'', or any certificate of interest or participation in, temporary or interim certificate for, receipt for, guarantee of, or warrant or right to subscribe to or purchase, any of the foregoing.
- Some products sold by real estate brokers, such as condominiums with corresponding rental pool agreements, may also be Securities. Persons who receive compensation in connection with the sale of these products would need to be registered both as

real estate brokers under certain state laws and as broker-dealers. Because this dual registration may be impractical, the SEC Division staff has determined not to recommend enforcement action if licensed real estate brokers in limited circumstances enter into networking arrangements with registered broker-dealers in order to participate in the offer and sale of real estate Securities without being registered as broker-dealers. In these arrangements, the registered broker-dealers must undertake all Securities-related activity involved with the offer and sale, and the real estate brokers' activities are limited to ensuring compliance with applicable real estate laws. Real estate networking arrangements are generally carried out by real estate brokers who, after showing the property to prospective clients, introduce the clients to registered representatives, then do not participate further in the sale except to share a commission. If the real estate broker performs additional activities or receives transaction-based compensation or controls or holds customer funds or Securities, he or she would have to register with the Commission as a broker-dealer. {see the supplemental glossary for Securities Broker-Dealer Registrations and therein The Securities Exchange Act of 1934}

Security (or **Individual Asset) Selection:** One of the three primary Performance Attribution classifications for the type of investment decision. The investment policy decision to choose, or select, Actively or Passively individual Securities or assets to represent an asset class.

- **Active Security** (or **Individual Asset) Selection** seeks to outperform a benchmark by correctly choosing and weighting Securities, or individual assets, within an asset class or style.
- **Passive Security** (or **Individual Asset) Selection** chooses Securities, or individual assets, to match the return on a benchmark.

Sequential Pay: The principal repayment first to the senior-most, outstanding Tranche in a securitization and then continuing to the next most senior Tranche.

Service Professional: A standard of conduct that requires a person who offers, provides or uses any service to support actively and adhere to the principle of self-disclosing any conduct that:

- is the subject of any Material investigation, litigation, arbitration or other action or written compliant
- resulted in any conviction of a felony
- resulted in any prevention from acting as a person who:
    1. Is registered, or licensed, under any law or regulation, or is affiliated with any registered, or licensed, entity
    2. Trades on, or in, any market, or marketplace; or
- violated any Real Estate, investment management, Securities or commodity code of conduct, law, regulation, rule, standard of practice or statute.

sf: Square feet (or sq. ft.).

Shingle Theory: The regulatory theory and standard of conduct that a Securities Broker or Dealer and the Broker/Dealer's employees are held to a higher standard of conduct by holding out to the world that it engages (or hangs out a shingle) in the Securities business or that it is an investment expert. The Securities B/D's depiction implicitly represents that it will be fair and satisfy professional norms and that it has the capabilities to perform the duties of an investment professional.

Shopping Center: The customary distinctions among shopping centers, as standardized by the Urban Land Institute (ULI), are:

- **Neighborhood Center:** Less than 100,000 SF. Provides daily essentials and everyday goods and services
- **Community Center:** 100,000 - 400,000 SF. Commonly a supermarket, discount and/or department store anchor accompanied by smaller stores providing frequently used goods and services
- **Regional Center:** 400,000 - 800,000 SF. Typically two anchor stores plus smaller in-line stores and service providers
- **Super-Regional Mall:** More than 800,000 SF. Typically three or more anchors plus in-line stores
- **Power Center:** Typically at least two anchor stores that are strong attractions in and of themselves but typically not including smaller in-line stores or service providers

Note: The center classification sizes may vary with the source {see the ICSC Shopping Center Definitions www.icsc.org/srch/lib/library.php and REIS Glossary, Property Type, Retail (ICSC) www.ncreif.com/resources/glossary.phtml?range=p-z}

Sinkhole: Land Subsistence caused by the collapse of a cave.

SMM (Single Monthly Mortality): Measures the percentage of dollars prepaid in any month, expressed as a percentage of the expected mortgage balance. The SMM formula is:

$$\textbf{SMM} = 100 \times [\,(\text{Scheduled Balance} - \text{Actual Balance}) \,/\, \text{Scheduled Balance}]$$

{see Prepayment}

Soft Dollar Standards: The standard of conduct that was created by the CFA Institute to ensure an investment manager will:

- fully and fairly disclosure its policy for directing its client's brokerage transactions
- uniformly and understandably present, disclose and record its client brokerage information
- act ethically in regard to its use of its client's brokerage

{see www.cfainstitute.org/standards/pdf/softdollarstandards2004.pdf}

SOX: {see Sarbanes-Oxley Act of 2002}

SPE or **Special Purpose Entity** or **Vehicle (SPV):** A shell company created to issue debt and equity and purchase collateral.

Specially Designated Nationals and Blocked Persons (SDN): The U.S. Treasury's Office of Foreign Asset Control (OFAC) regulations prohibit transactions with certain persons and organizations listed on the OFAC website as "Terrorists" and "Specially Designated Nationals and Blocked Persons," as well as listed embargoed countries and regions. Firms must check this list on an ongoing basis to ensure that potential customers and existing customers are not prohibited persons or entities and are not from embargoed countries or regions before transacting any business with them.

Special Servicer: A separate servicer, in addition to the Master Servicer, in a CMBS transaction who is responsible for managing loans that are in default or likely to be in default soon and for conducting work-outs and foreclosures, e.g., liquidating the loans and advancing the proceeds to the trustee. A Special Servicer is classified by whether it:

- retains first-loss pieces
- invests in B-pieces in return for special servicing rights
- is appointed solely because of its specialized asset-management expertise

Strategic Asset Allocation: One of the three primary methods of Asset Allocation and of the classification of the type of investment decision for Performance Attribution. The investment policy decision to use long-term allocations to asset classes based on an investor's Objectives, Constraints and expectations of the long-term performance of different asset classes. A Strategic Asset Allocation policy decision is changed when an investor's Objectives or Constraints change.

Structured Security: A debt obligation issued by a special-purpose entity and backed by the cash flow from a pool of assets.

Subordination: A form of Credit Enhancement that structures a Security into classes, in which the risk of credit loss is disproportionately distributed. It is commonly recognized as a senior/subordinate structure.

Sub-Servicer: A servicer who contracts with a Master Servicer and Special Servicer to perform some of the real estate services, such as property inspections, foreclosure services or individual loan administration. The Master or Special Servicer is legally responsible for the activities of the Sub-Servicer. The Sub-Servicer is likely to be engaged because it originated the loans, for specialized property types or if there is a small number of loans, a subset of the total portfolio, in a given area.

Style Rotation: A form of Market Timing, that is one of the three primary classifications of the type of investment decision for Performance Attribution. The shifting of Securities, or individual assets, within an asset class based on style classification.

Systemic (or **Undiversifiable** or **Market) Risk:** The risk that is caused by factors that impact the entire economy and all assets in the market. {see Unsystematic Risk}

Tactical or **Active Asset Allocation:** One of the three primary methods of Asset Allocation. A form of Market Timing, that is a classification of the type of investment decision for Performance Attribution. The investment policy decision to focus on anticipated short-term changes in the allocation of assets based on the ability to predict correctly market movements. Tactical Asset Allocation acts on projected market shifts, while Dynamic Asset Allocation reacts to actual past market shifts. {see the capitalized terms}

Tangible Asset Value (TAV): The total assets (including the value of patents, copyrights and trade marks but excluding the value of Goodwill) less total liabilities. NASDAQ Stock Market Rule 4200(a)(28).

Tcf: A trillion cubic feet (of natural gas).

TI: Tenant improvement(s); the cost to improve physically a space, usually paid by a landlord.

TILA or **Truth in Lending Act:** A federal statute enacted in 1968 and subsequently amended that protects a consumer in the use of credit. It is administered by the Board of Governors of the Federal Reserve through the Regulation Z.

Total Return (TR): The Total Return of a portfolio equals:

- the sum of the (i) portfolio's value at the end of the time period minus the portfolio's value at the beginning of the same period (collectively the asset's appreciation), plus (ii) dividend and interest received on the portfolio for the time period (collectively the current return), divided by
- the portfolio's beginning value

Or, more simply:

TR = (price change + cash received) / beginning price

Tranche: A collection of Structured Securities that is equal in term of rights and priority of payment, but have more or less senior rights compared with Securities of other Tranches..

Transparent: The standard of conduct that requires direct, prompt and Full Disclosure of complete, correct and current information to the public in an obvious form and with sufficient explanation for easy comprehension by the public.

Travel: See Rise.

TRIA or **Terrorism Reinsurance Act:** An act, passed by Congress in November 2002, to create a federal reinsurance program requiring insurance companies that offer Property and Casualty Insurance to also offer terrorism coverage to its policyholders. TRIA initially expires at the end of 2005, unless renewed by Congress.

Trust Indenture Act: A federal law enacted in 1939 that applies to debt Securities such as Bonds, Debentures and notes that are offered for public sale. Even though such Securities may be registered under the Securities Act of 1933, they may not be offered for sale to the public unless a formal agreement between the issuer of Bonds and the bondholder, known as the trust Indenture, conforms to the standards of this Act.
{see www.sec.gov/about/laws/tia39.pdf}

UCC: Uniform Commercial Code.

Uniform Management of Institutional Funds Act or **UMIFA:** Charitable organizations and their directors in the U.S. may be governed the standards of conduct in this Act, that are consistent with the principles of Fiduciary Duty set forth by the Modern Portfolio Theory.

Unsystematic (or **Unique** or **Diversifiable) Risk:** The risk that is asset or firm specific; it is not attributable to market factors and can be eliminated by fully diversifying an investment portfolio.
{see Systematic Risk}

UPREIT: Umbrella REIT.

USPAP: Uniformed Standards of Professional Appraisal Practice (published by the Appraisal Standards Board of The Appraisal Foundation). USPAP represents the generally accepted and recognized standards of appraisal practice in the United States.

WAC or **Weighted Average Coupon:** The average coupon or interest payment on a set of mortgages, weighted by the size of each mortgage in the pool. {see Prepayment}

WAL or **Weighted Average Life:** The average time until all scheduled principal payments are expected to have been made, weighted by the size of each mortgage in the pool. {see Prepayment}

WAM or **Weighted Average Maturity (**aka **WARM** or **Weighted Average Remaining Maturity;** and **WART** or **Weighted Average Remaining Term):** The average time before a set of mortgages will be retired, weighted by the size of each mortgage in the pool. {see Prepayment}

WARF or **Weighted Average Rating Factor:** A Moody's Investors Service, Inc. representation of the quality of collateral that converts a collateral rating to a numeric scale and then weights it by the holding size. A WARF is the Moody's expected 10-year cumulative default rate, or CDR, for a credit multiplied by 10,000; i.e. a Moody's WARF of 360 equates to a 10-year Moody's expected CDR for a credit rated Baa2 of 3.60%. A WARF of 2525 will be stressed to withstand 25.25% cumulative defaults over a 10-year period. The lower the WARF, the fewer defaults the financial structure must withstand, producing greater leverage. Sample WARF scores and their equivalent ratings for various CDO structures include:

Type of Security	WARF score	Rating
Plain Vanilla CDO	2500-2720	B1/B2
ABS CDO	260-610	Baa1-Baa3
Balance Sheet CDO	600-1600	Baa3-Ba3

{see Diversity Score}

Waterfall: The priority of interest or principal payments in a Structured Security as defined in the Indenture.

x: The multiplication symbol and synonym for "times".

Yield Curve: A graph that plots market yields on Securities of equivalent quality but different maturities at a given point in time. The vertical axis represents the yields, while the horizontal axis depicts time to maturity.

Yield Maintenance: A prepayment premium that allows investors to attain the same yield as if the borrower had made all scheduled mortgage payments until maturity. Yield maintenance premiums are designed to make investors indifferent to prepayments and to make refinancing unattractive and uneconomical to borrowers. {see Defeasance}

Yr.: Year.

APPENDIX C
Investment and Statistical Formula Information

Below is some salient, investment information on selected statistical formulae. It is only supplemental to the information contained in the Content References in Appendix A and is presented in a practical sequence, that is often a non-alphabetic manner. **This is not a comprehensive listing. It is a supplement to, not a substitute for, the understanding that may be obtained by reading the Content References in Appendix A.** Note: Individual authors may use slightly different symbols for the same term.

A Return: A profit on an investment.

Average Life: The time until all scheduled principal payments and unscheduled principal payments (i.e., prepayments) are expected to have been made. The average life of a CMBS is typically compared to the comparable Treasury (often an interpolated Treasury) to determine the expected yield on the CMBS.

Convexity: See Appendix B.

Duration: See Appendix B.

Expected Return: The probability-weighted average of the range of estimated, possible Returns. The sum of the products of each possible Return and its probability of occurrence. The sum of the probabilities is 100%.

$$\mathbf{E(R)} = \sum(\text{a Return}) \times (\text{the Return's probability})$$

Expected Total Return: Sum of the expected dividend yield and the expected appreciation.

$$\mathbf{E(R_T)} = E(D_0) + E(P_1 - P_0).$$

Expected Return's Variance: A quantification of the uncertainty, or risk, associated with an Expected Return. An absolute measure of the dispersion of possible Returns around the Expected Return. The probability-weighted average of the squared deviations from the Expected Return. A larger Variance indicates there is a larger calculated dispersion and greater risk for the investment.

$$\boldsymbol{\sigma^2} = \sum(\text{probability}) \times [R_{POSSIBLE} - R_{EXPECTED}]^2$$

Expected Return's Standard Deviation: A quantification of the uncertainty, or risk, associated with an Expected Return. An absolute measure of the dispersion of possible Returns around the Expected Return in the same units as the data. The square root of the Variance of the Expected Return. A larger Standard Deviation indicates there is a larger calculated dispersion and greater risk for the investment.

$$\boldsymbol{\sigma} = \sqrt{\sigma^2}$$

Coefficient of Variation: A quantification of the uncertainty, or risk, associated with two or more, dissimilar investments. A relative measure of dispersion. The calculated risk per unit of Expected Return. The Standard Deviation of Returns divided by the Expected Return. An larger Coefficient of Variation indicates that the investment has more relative variability or higher risk per unit of Expected Return.

$$\mathbf{CV} = \sigma \,/\, E(R)$$

Sharpe Measure (aka **Reward-to-Variability Ratio):** A quantification of an investment portfolio's return to its risk. A measure of the portfolio's mean, or average, return in excess of the mean return on a risk-free alternative investment divided by the Standard Deviation of the portfolio's returns. A larger Sharpe [Portfolio] Measure indicates more excess portfolio return per unit of total risk. In a graph of the Capital Market Line, any Sharpe Measure above the CML indicates a superior risk-adjusted performance; a plot below the CML indicates an inferior performance.

$$\mathbf{S} = (R_{MEAN} - R_{RISK\text{-}FREE}) \,/\, \sigma$$

Capital Market Line (CML): A plotting of portfolio Returns viz. the Standard Deviation of the Returns.

Covariation: A quantification of the degree to which two sets of investments' returns move together. An absolute measure of two Returns' consistent movement over a period of time above or below the individual mean Returns.

- A **Positive Covariance** number indicates that the returns on both investments are consistently and simultaneously above or below their individual mean returns; their investment performance over the period of time was similar.
- A **Negative Covariance** number indicates that the investments' performances differed over the period time.

$$\mathbf{Cov_{A,B}} = [\sum(R_A - R_{A\,MEAN}) \times (R_B - R_{B\,MEAN})] \,/\, n$$

Correlation Coefficient: A quantification of the relative measure of the relationship of two sets of investment returns. The Covariation of the two returns is divided by the product of their Standard Deviations.

- A high **Positive Correlation Coefficient** indicates that the investments have similar investment performances, or a direct relationship, over the period of time.
- A **Negative Correlation Coefficient** means that the investments have an inverse performance relationship. A value near zero means that there is a random, nonlinear relationship between the two investments. The range of the Correlation Coefficient number is -1 to +1.

$$\mathbf{r_{A,B}} = [COV_{A,B}] \,/\, [(\sigma_A) \times (\sigma_B)]$$

Coefficient of Determination: Indicates how well the total variance in a dependent variable is explained by an independent variable. A Coefficient of Determination of 0.70 means that 70% of the variation in y is accounted for by the Regression Equation. Consider a number of 0.70 or higher for a reasonable model.

$$\mathbf{R^2} = \frac{\text{total variation} - \text{unexplained variation}}{\text{total variation}}$$

APPENDIX D
Derivative Financial Instruments

This Appendix enables a CRI Candidate to understand the ethical conduct and competency required to perform the Tasks that involve Derivative Financial Instruments or Derivatives in the Level 2 Exam Detailed Content Outline. It explains the practical use of Derivatives in the Investment Decision-Making and Implementation process to shift Risk, achieve or enhance Total Return, or rebalance a portfolio.

Taxes and commissions are excluded, for the sake of consistency with the level of understanding required by the CRI Detailed Content Outline, and must be included in an actual transaction. This Appendix is not comprehensive and does not constitute any investment, legal or tax advice.

This Appendix is a supplement to, not a substitute for, the understanding obtained by reading the Content References in Appendix A.

The definition of a capitalized word follows the bold formatting of the word and appears upon the word's first use herein, as soon as possible thereafter, or previously in Appendices B or C. The triangular accent mark ► precedes salient differences between similar terminologies.

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0.0 OVERVIEW

The Appendix is structured from the general to the specific. First, it connects the Appendix to the other elements of the *Level 2 Guide* by summarizing how investors satisfy their Investment Return and Risk Tolerance Objectives and Investment Constraints using Derivatives. Second, it broadly and then narrowly defines Derivatives viz. Real Estate investment activities. Third, it defines, classifies and measures the Risks that are related to and managed by Derivatives. Fourth, it presents alternative methodologies of classifying, or understanding, Derivatives. Fifth, it briefly introduces the pricing and valuing of Derivatives, including the role of Put-Call Parity. Sixth, it declares the critical role of ethical conduct in using Derivatives. Seventh, it presents real-life Real Estate investment problems and their related Derivative solutions.

The unique feature of this Appendix is its construction from the perspective of a Real Estate professional who

- is unfamiliar with Derivatives
- needs an immediate solution to a real-life Real Estate problem, and
- requires ethics-based competency in investing.

1.0 SATISFYING INVESTMENT OBJECTIVES AND CONSTRAINTS WITH DERIVATIVES

Derivatives are market-created solutions to Investment Decision-Making and Implementation problems. Because Investment Constraints, Objectives and Performance vary and evolve, Derivatives continually are changing and evolving. Derivatives achieve Real Estate Investment Objectives, within the specified Investment Constraints, by indirectly changing the Bundle of Rights related to a defined volume of space over a specified period of time in the global marketplace. The satisfactory use of Derivatives requires ethics-based, competent, professional conduct by the participating parties.

2.0 DEFINING A DERIVATIVE (aka DERIVATIVE FINANCIAL INSTRUMENT OR PRODUCT)

[a] **Derivative:** is a financial instrument, contract or agreement whose value depends on, derives from, originates in or transforms from the performance of a secondary source, the Underlying Asset.

From an economist's perspective, Derivatives include corporate shares of stock and Bonds because their prices depend on the Underlying corporate asset value and cash flow. Derivatives also include Asset-Backed Securities, Mortgage-Backed Securities and other securitized instruments

However, in this Appendix and consistent with common financial and investment usage, a Derivative is limited to a financial instrument or contract whose value depends on an Underlying Asset, such as:

- the price of a Bond, Commodity, currency, mortgage, Real Estate portfolio, stock, etc.
- a rate of interest or yield
- an index of prices or yields
- weather data, e.g., inches of rainfall or Heating Degree Day (HDD)
- insurance data (e.g., claims paid for an earthquake or flood)

{see *SFAS Statement No. 133 Accounting for Derivative Instruments and Hedging Activities June 1988,* Appendix E: Diagram for Determining Whether a Contract Is a Freestanding Derivative Subject to the Scope of this Statement, www.fasb.org/pdf/fas133.pdf}

Derivatives can solve problems (e.g., in accounting, investing, positioning, and complying with regulations). They can enable an end user to adjust its Risk profile to match its view of the financial markets and its preference (or Risk Tolerance) for holding and managing Risk. Derivatives can also enhance Return Objectives.

The elements of a Derivative include:

- **Multiparty Agreement:** Two or more parties (generally referred to as **Counterparties)** contract to do something for each other (e.g., one party first pays the other party to obtain coverage against a Risk; or, each party agrees to do something for the other at a later date with no initial transfer of money).
- **Underlying**, or **Reference**, **Asset** or the **Underlying:** The instrument (in some cases another Derivative), reference rate or index that underlies a Derivative. [FASB SFAS No. 133 6/98: "A specified interest rate, security price, commodity price, foreign exchange rate, index of prices or rates, or other variable. An Underlying may be a price or rate of an asset or liability but is not the asset or liability itself"]
- **Notional** (aka **Contract, Currency, Face, Principal** or **Reference) Amount:** The Underlying quantity of the financial instrument or commodity stated in a Futures or Options contract – A hypothetical amount upon which interest payments or other payment obligations are computed. The Notional Amount is analogous to the principal amount of a Bond. [FASB SFAS No. 133 6/98: "A number of currency units, shares, bushels, pounds, or other units specified in a derivative instrument"]
  - **Face (Par) Amount:** The amount of money printed on the face of the certificate of a security; the original dollar amount of indebtedness incurred.
- **Initial Investment:** None, or less than is required by an equivalent position in the Underlying
- **Settlement:** A payment between parties made periodically, either by (i) a required or permitted net settlement via a vehicle external to the contract or (ii) delivery of an asset, which creates a recipient position substantially equivalent to net settlement. The value or price of the Underlying, amount of the Notional Amount and contractual payment provisions determine whether an asset Settlement is required and, if required, the amount of the Settlement.
- **Spot**, or **Cash, Price:** The current market price for immediate delivery (or cash price) of an Underlying Asset.
- **Effective Date:** Date when the parties commence calculating the accrued obligations
- **Trade Date:** Date when the parties agree to a contract's terms
- **Expiration Date:** Date when the Derivatives contract ends (or Expires)
- **Settlement Date(s):** Date or dates when Settlement amounts are paid, during the life of a Derivative (i.e., Pre-Settlement), at the Expiration of a Derivative (i.e., Settlement at Expiration), and after Expiration.

3.0 USING DERIVATIVES TO MANAGE RISK

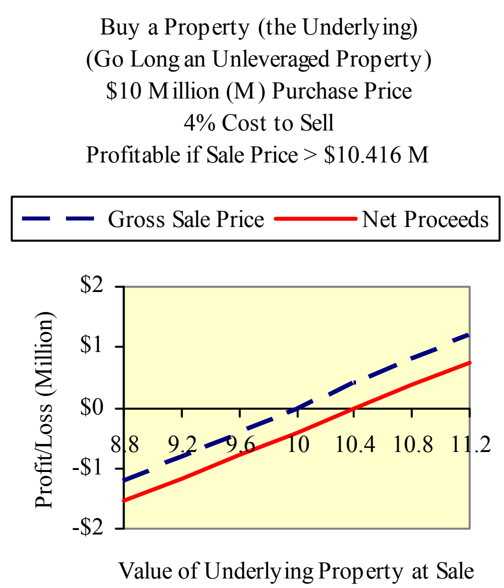
3.1 Defining Risk

Investors use Derivatives to manage **Risk,** i.e., the uncertainty of change in the price or value of an asset or liability or the potential for some other (e.g., financial) change.

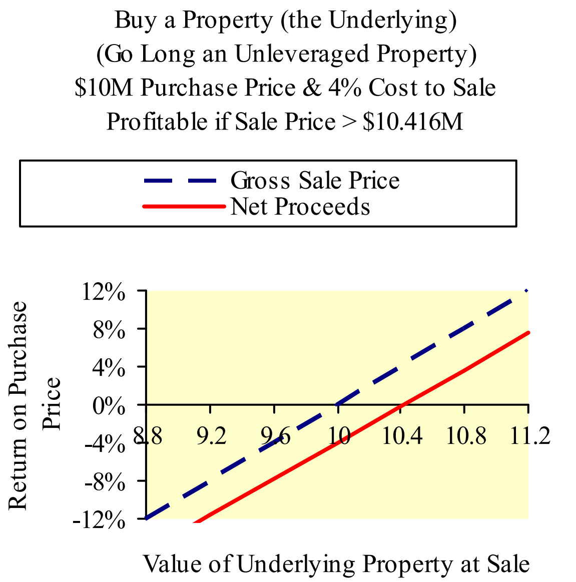
An unexpected or a mis-measured (i.e., assuming a normal distribution) change can produce an unexpected gain (i.e., an **Upside Risk**) or loss (i.e., a **Downside Risk,** which is the likelihood that a Security, Derivative or other investment will decline in price, or the amount of loss that could result from that potential decline).

Risk considerations include the:

- absolute amount of change, as exhibited below:

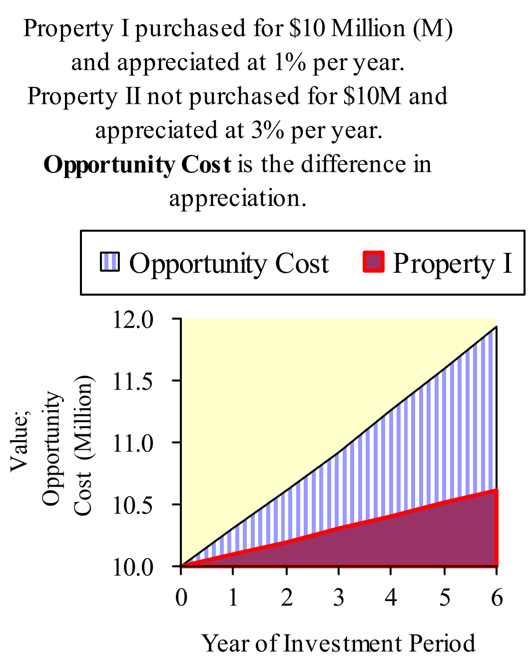


- relative amount of change, as exhibited below:



and

- potential for **Opportunity Cost**, as exhibited below



3.2 Classifying Risks

There are multiple methods of classifying Risks, including:

- **Systematic Risk or Unsystematic Risk** {see Appendix B}
- **Upside Risk or Downside Risk** {see § 3.1, herein above}
- **Current Exposure** or **Risk** (i.e., The Risk that events happening now change the current market-to-market value of a Derivative), and **Potentia**l **Exposure** or **Risk** (i.e., The Risk that events happening in the future potentially will change the market value of a Derivative)
- **Financial** and **Non-Financial Risk.**

Derivatives cannot effectively manage all Risks and do contain their own Risks.

3.2.1 Financial Risks

- [**Counterparty**] **Credit** (or **Default) Risk:** The Risk of loss (i.e., A **Credit Loss** is analyzed as the product of the probability of a loss event and the amount of the loss net of any recovery) from a creditor or Counterparty nonpayment consists of:
  - o **Current Credit Risk**: in which a party does not make a payment currently due, and
  - o Potential **Credit Risk:** in which a party does not make some payment due in the future.

  Credit Risk patterns vary across different Derivatives and across the time within a single Derivative. In Forward Contracts and Swaps, either party potentially could owe the net amount due and default (i.e., a **Bilateral** Credit Risk**);** whereas in over-the-counter Options, only the buyer has Credit Risk from the seller's default.

  A Swap at its inception has Potential Credit Risk from its potential future value, even though it has zero value (or zero Current Credit Exposure) at the inception of the contract.
  - o The Credit Risk in an Equity Swap and Interest Rate Swap is typically zero at the inception of the contract [or the parties won't enter into the transaction], increases over time generally to its greatest potential amount at the middle of the contract period [when typically the largest potential amount is at Risk] and decreases as the Expiration date of the contract approaches [when the amount at Risk is generally less].
  - o The Credit Risk in a Currency Swap is greater than in an Interest Rate Swap because 1) Interim Swap payments generally are not netted and 2) Notional Amounts may be exchanged at origination and again at Expiration (when changes in exchange rates may cause significant differences in net amounts due). The greatest Credit Risk occurs from the middle to the end of a Currency Swap.
- **Liquidity Risk:** The Risk that a purchase or sale cannot occur or cannot occur at the prevailing market prices without a Material price concession. It is the Risk that a conversion to cash cannot occur readily, because of Illiquidity (e.g., due to the insufficient size of the market). Liquidity Risk is different from **Funding Liquidity Risk,** or the occurrence of insufficient cash to satisfy payment obligations.
  - o **Illiquidity** or an **Illiquid Market:** A trading environment characterized by low trading volume, wide spreads between bid and ask prices, or the inability to trade large-sized orders with a minimum effect on price. It is a latent Risk because there can be

a liquid purchase and subsequently an Illiquid sale market. If the Underlying is Illiquid, then the Derivative on that Underlying is probably Illiquid.

- [**Financial** or **General**] **Market** (or **Price**) **Risks:** The Risk that the value of on- or off-balance-sheet positions will decline before the positions can be liquidated or offset with other positions. It is the uncertainty of change in the price or value of an asset, a liability or a financial instrument related to movement in market rates and prices (e.g., Commodity prices, equity prices, interest rates, currency exchange rates). Change in currency exchange rates creates special Risks including:
  - **Transaction Exposure:** The Risk in a purchase, sale or other business transaction caused by change in the foreign exchange rate
  - **Translation Exposure:** The Risk in the accounting conversion of foreign currency statements into domestic currency caused by change in the foreign exchange rate[s]
  - **Economic Exposure:** The Risk to a product or service's relative competitive appeal caused by a change in the foreign exchange rate.
- **Specific Risks**: The uncertainty of change in the Underlying's value caused by factors other than broad market movements (e.g., changes in the Underlying's Credit Risk)
  - **Weather Risk:** The Risk arising from changes in weather variables (e.g., temperature or precipitation) be it in the aggregate over a period of time or as measured at specific points in time. Changes in aggregate weather variables usually relate to volumes (e.g. sustained cold weather to cubic feet of gas consumed for heating). Weather at specific points in time usually relates to discrete costs (e.g. Rainout of a day in tennis tournament rentals and the costs of rescheduling).
  - **Energy Source Shortage:** The Risk that there is insufficient energy available to a Real Estate investment.
  - **Event Risk:** the Risk of a terrorist activity or act of war.

3.2.2. Non-Financial Risks

- **Accounting Risk:** The Downside Risk of (i) confusion over the proper accounting for a [Derivative] transaction and (ii) improper accounting causing regulatory investigation, financial loss, financial restatement of a [Derivative] transaction, prosecution and punishment.
- **Business Risk:** The Downside Risk of uncertainty in economic value that, unlike Market Risk, cannot be marked-to-market.
- **Legal Risk:** The Downside Risk [in a Derivative transaction] that a contract is not legally enforceable or properly documented. It is the Risk that the legal system will not enforce a contract (e.g., A court 1. upholds a Counterparty's claim that the Securities Broker Dealer acted fraudulently, failed to act as the Counterparty's advisor or failed to recognize the Counterparty's lack of legal authority, 2. declares the contract null and void, or 3. abrogates the Counterparty's loss under the contract).
- **Modeling Risk:** The omni-present Risk of using the wrong model or using the wrong data or assumptions as model inputs to price or value a [Derivatives] transaction
- **Operational (**or **Operations) Risk:** The Downside Risk resulting from inadequate or failed internal processes, people and systems or from external events
- **Regulatory Risk:** The Downside Risk resulting from the actual or threatened introduction of, or a change in, a [Derivative] regulation or a regulatory framework
- **Settlement (Delivery** or **Herstatt) Risk:** The Risk of loss when one party meets its obligation (i.e., makes payment or delivers Securities) under a contract before the Counterparty meets its obligation. Failure to perform at Settlement can arise from Counterparty default, Operational problems or other factors. [History: The German bank, Herstatt, took foreign-currency receipts in Europe, but did not make any of its related U.S. dollar payments. In 1974, when German banking regulators closed the bank down, Counterparties incurred substantial losses.]
- **● Taxation Risk:** The Downside Risk of confusion, loss (i.e., tax penalty) and owing back taxes resulting from an incorrect tax filing, usually caused by a misinterpretation of tax law, or from an adverse change in tax law

3.3. Managing Risk

Risk Management: An implicit feature of Investment Decision-making and Implementation and is the continuing process of:

- specifying an entity's desired exposure to Risk
- measuring the entity's actual exposure to Risk
- determining how to best manage the exposure
- acting to align the actual to the desired Risk exposure (e.g., by using Derivatives)
- monitoring to ensure continuous alignment
- reporting the actual Risk performance [against a suitable, pre-determined benchmark]

3.4. Risk Measures

Positive and negative Variance around an expected return is measured in terms of Standard Deviation and can indicate the relative Risk of various assets.

Measures of Market Risk include Beta for stocks and Duration and Convexity for debt instruments. Derivatives' Risk is described theoretically and imperfectly using the Greeks, Value-at-Risk, Cash-Flow-at-Risk, Earnings-at-Risk and Scenario Analysis.

3.4.1. [the] "Greeks"

Delta, Gamma, Rho, Theta and Vega are measures that describe the exposures of a position or portfolio to changes in financial prices.

- **Delta:** A measure of price Risk. Delta is the rate of change in the price of the Option's Premium with respect to a change in the price of the Underlying. It is the first derivative of an Option value with respect to the Underlying's price. It is the expected change in an Option's price corresponding to a one-unit change in the price of the Underlying (e.g., an Option with a Delta of 0.5 is expected to change $0.50 when the Underlying moves $1.00). Commonly interpreted as the probability that the Option will be In-the-Money by Expiration. Calls have Positive Deltas; Puts have Negative Deltas.
- **Gamma:** A measure of Delta Risk or of how well the Delta measurement approximates the Option's price response to an Underlying price change. It's a measure of the rate of change in an Option's Delta for a one-unit change in the price of the Underlying. It is the second derivative of the Option's price viz. the Underlying's cash price. High Gamma indicates higher movement in Delta with changes in the Underlying and requires more frequent need for adjustment of hedge ratios. Low Gamma indicates less movement in Delta and requires less need for adjustment in hedge ratios. Gamma is highest when the Underlying price is near the Option's Strike Price and reduces as the Option approaches Expiration.
- **Rho:** A measure of the sensitivity of the Option's price to small changes in the risk-free interest rate. It is the expected, absolute change in an Option's theoretical value for a one hundred basis point change in the discount rate that is used for discounting future cash flows.
- **Theta:** A measure of Time Decay or of the change in value of an Option associated with the passage of time, with all other factors remaining unchanged. A predictive measurement, which can be positive or negative (e.g., it can be expressed in cents as a negative number), that estimates the rate at which an Option's theoretical Time Value changes for a one-period (e.g., a day, 7 days or year) change in the time to the Option's Expiration, with all other factors remaining unchanged.
- **Vega:** A measure of Volatility Risk or of the sensitivity of an Option's Price to a given change in the Implied Volatility of the price of the Underlying with all other factors remaining unchanged. Vega is the rate of change in an Option's theoretical value for a one-unit (e.g., 1%) change in the Volatility assumption. It is positive for Calls and Puts, which means that their Prices increase as Volatility increases. It is greater the closer the Option moves to the Underlying value equaling the Strike (i.e., being **at-the- money**); it becomes smaller at an accelerating rate as Spot moves higher and Volatility presumably also increases.

3.4.2. Value-at-Risk (VaR or VAR)

VaR is a statistical, Downside Risk measurement of the worst expected loss in the value (e.g., Market Risk) of a position or portfolio at a specified confidence level (e.g., 95% or 99%) under normal market conditions for a specified time horizon (e.g., one day, week, month, quarter or year). VAR is usually expressed as a dollar amount (or occasionally a percentage) of the position or portfolio.

VaR is stated:

- as the
  - minimum loss that would be exceeded with a specified probability (e.g., 1% or 5%). When VaR is stated as a minimum loss, then a portfolio VaR of $1 Million (M), or 1% of a $100M portfolio, for one day with a probability of 0.05 is a 5% chance that the $100M portfolio is expected to loose *at least* (or *a minimum of*) $1M or 1% in one day, or
  - equivalent maximum loss at the pre-set complimentary confidence level (e.g., 99% or 95%); When VaR is stated as a maximum loss, then a portfolio VaR of $1M, or 1% of a $100M portfolio, for one day with a probability of 0.95 is a 95% *confidence level* that the $100M portfolio is expected to loose *no more than* (or *a maximum of*) $1M or 1% in one day; Note the absolute maximum *possible* loss is 100% of the position or portfolio
- at the longest time horizon needed for an orderly position or portfolio liquidation
- at the probability of loss (if reported as a minimum loss) or at the confidence level (if reported as a maximum loss) that reflects the degree of Risk aversion of the subject entity (e.g., VaR used as a critical, capital cushion measurement implies a higher Risk aversion and lower probability of loss, or higher level of confidence. VaR used for a broad corporate comparison of Risk across various markets permits a higher loss probability or lower confidence level)
- as equal to**:**

$$\left[(Duration)\times\left(\frac{1}{1+y}\right)\times\begin{pmatrix}portfolio\\ value\end{pmatrix}\times\begin{pmatrix}the\ worst\\ yield\\ increase\end{pmatrix}\right]$$

  when a position or portfolio is exposed to only Interest Rate Risk and y = periodic yield

VaR is difficult to measure, can produce a false sense of security and requires assumptions, including a normal distribution of the **Return of Financial Prices** (i.e., the capital gain/loss that is expected to accrue by holding a financial asset for one day) with a mean of zero. The common methods of VaR measurement are:

- **Delta-Normal:** Requires normal distributions for all Risks and Securities without Options (i.e., linear Risk factors)

- **Historical-Simulation:** Permits normal/ abnormal distributions and non-linear Securities (e.g. CMOs, callable bonds)
- **Monte Carlo Simulations:** Permits any distribution and non-linear Securities.

VaR, when generated by the same measurement method, can be used to compare the Risk of different portfolios in an analysis of the **Return on Risk Capita**l (i.e., the Return divided by the amount of capital at Risk; herein only "**RoRC**"). i.e.,

- Two portfolios have $10M Principal Amounts and 15% annual Total Return (TR) objectives.
- If Portfolio # 1 has a 15% actual TR and 2% annual VaR @ 5% minimum loss probability, then

  RoRC#1 = [10M x 15%] / [10M x 2%] = 7.5.

- If Portfolio # 2 has a 22% actual TR and 7% annual VaR @ 5% minimum loss probability, then

  RoRC#2 = [10M x 22%] / [10M x 7%] ≈ 2.9.

  {note: The source and calculations that resulted in the 2% and 7% annual VaR, shown above, are beyond the scope of this Appendix and the Exam}

► Portfolio # 1 is better managed on a RoRC-basis (7.5 > 2.9), although its TR is less (15% < 22%).

3.4.3. Cash-Flow-at-Risk (CFaR)

CFaR is a VaR-type measure of cash flow that is useful for physical (i.e., non-financial) assets with cash flows. Cash Flow at Risk estimates the amount of the difference between actual Cash Flow and the planned value (or that used in the budget) is due to changes in the underlying risk factors. This probability is quantified by a probability, e.g. 95% in the next 12 months.

3.4.4. Earnings-at-Risk (EaR)

EaR is a VaR-type measure of earnings.

3.4.5. Scenario Analysis (aka Stress Testing)

Scenario Analysis simulates alternative hypothetical events, including multiple assumption changes covering economic, business or market conditions, to assess their effect on the value of a portfolio. Stress Testing usually includes an extreme of scenarios.

4.0 CLASSIFYING DERIVATIVES

4.1. Methodologies

4.1.1. By Type of Commitment or Claim

One method of classifying Derivatives focuses on whether the contractual agreement between the parties is a:

- **Forward Commitment:** A firm and binding agreement (e.g., Forward, Futures and Swap Contracts; not an Option contract) which obligates one party to buy or to sell and the Counterparty to sell or to buy, respectively, an Underlying on a specified date at a specified price (or alternatively, to offset the agreed upon transaction with another transaction),

or a

- **Contingent Claim:** A firm and binding agreement (e.g., Option contracts; not a Forward, Futures or Swap Contract) in which the Payoff is dependent upon the occurrence of a specific event: One party is obligated to perform under the contract while the Counterparty has the option of whether or not (i.e., is not obligated) to engage in the transaction.

4.1.2. By Type of Trading Market

Another method of classifying Derivatives is whether the contracts are traded on an:

- **Over-the-Counter (OTC) market:** A **Dealer Market** (i.e., a private or non-public and presently less regulated market) in which financial instruments are traded by parties who determine, or customize, the contract terms and conditions and accept each other's Credit Risk, without the participation of an organized exchange or clearinghouse,

or

- **Exchange-traded market:** An organized exchange on which standardized contracts are traded in accordance with the exchange-specified contract terms and conditions, trading rules and guarantees (normally through the exchange's clearinghouse) against loss from a party's default. To protect itself against Credit Loss, the exchange typically requires collateral deposits (or **Margin**) and determines the Margin requirements, i.e., the:
  - **Initial Margin**: The deposit required by the exchange when the position is first established.
  - **Maintenance Margin**: Set below the Initial Margin level and is the minimum level to which an investor's equity may fall before additional Margin is required.
  - **Variation Margin**: The additional Margin required when an investor's equity has fallen below the minimum, or Maintenance Margin, level.

4.1.3. By Type of Risk Managed

A third method classifies Derivatives by the Risk(s) they manage. For example,

- **Credit Derivatives**: Contracts in which a party receives a payment in the event of a defined Credit Event. Credit Derivatives are used to manage Credit Risk and to separate Credit Risk from Market Risk. They include Credit Spread Options, Credit-linked Notes, Credit Default Swaps and Total Return Swaps.

- **Weather Derivatives**: OTC and Exchange-traded Forward Commitment Derivative contracts in which payments depend on weather conditions (e.g. the amount of rain above a specified level or beyond a specified number of days). Weather Derivatives differ from conventional **Weather Insurance**, or insurance policies that pay based on the amount of financial loss (property, business income or other) caused by adverse weather.

Other examples jnclude Interest Rate and Currency Derivatives, which are defined elsewhere in this Appendix.

4.2. OTC Forward Commitment Derivatives

OTC Forward Commitment Derivatives consist primarily of Forward Contracts and Swaps.

4.2.1. Forward Contracts (aka Cash Forward Sales)

Forward Contracts are privately negotiated, presently less regulated and more customized (i.e., The Delivery time and amount are not standardized by an exchange), OTC Forward Commitment Derivative agreements that (i) obligate one Counterparty to buy (i.e. **to go Long**) and the other to sell (i.e., **to go Short**) an Underlying at a specified amount, price and future date, (ii) expose only the Counterparty with a positive mark-to-mark value (or gain) to Credit Risk default over the life of the contract by only the Counterparty with a negative mark-to-market value (or an accumulated loss at the end of a contract), (iii) do not require the payment of a fee or transfer of money at initiation (although the Credit Risk may be reduced by the use of collateral), and (iv) settle by **Delivery** (herein the Long pays the agreed-upon price to the Short who delivers the Underlying to the Long) or by **Cash Settlement** (or the equivalent payment of the net cash amount due).

► The parties have flexibility in creating the terms, because the contract is negotiated **Over-The-Counter** (i.e., without any exchange involvement).

Forward Contracts include:

- **Bond Forwards:** Forward Contracts for the purchase of a Bond, a portfolio of Bonds or a Bond index on a future date before the Bonds' maturity date(s) for an agreed upon price that recognizes any special terms (e.g., a Call or conversion provision) and is subject to specified liability by the parties in the event of default.
- **Currency Forwards:** Forward Contracts in which the (i) the Long party agrees to buys a currency from the Short counterparty at a fixed price on a stated future date, (ii) Underlying is foreign currency, and (iii) Settlement is by Delivery or Cash Settlement.
- **Commodity Forwards:** Forward Contracts in the Underlying is a **Commodity,** i.e., a tangible article of trade or commerce or an economic good including an agricultural product, foreign currency, financial instrument, index, jet fuel, natural gas, petroleum product or precious metal. Commodities are traded by end-users (e.g., **Hedgers**), investors, scalpers and day traders (i.e., **Speculators**).
- **Equity Forwards:** Forward Contracts for the purchase of individual stock shares, a portfolio of stocks or a stock index on a future date, at an agreed upon price that recognizes the underlying could pay dividends.
- **Interest Rate Forwards** (**Forward Rate Agreement** aka **FRA**)**:** Forward Contracts in which the (i) the Long party makes a fixed interest payment on a future date, (ii) the Counterparty makes an interest payment at a rate to be determined on the Expiration Date, and (iii) Underlying is an interest rate on a notional amount in any currency agreed upon by the parties.

► An FRA is a Forward Contract (or commitment to make one interest payment and receive another at a future date) in which the Underlying is an interest rate {compare with Interest Rate Option}. The payoff is the difference between the Underlying interest rate and the fixed rate embedded in the contract at its construction.

An FRA is a Forward Contract to make one known interest payment and receive an Underlying rate at a forward date. The payoff is the difference between the Underlying rate and the fixed rate. Underlying, forward rate, Notional Principal amounts, forward date, and currency are specified in the contract. The Long party makes the known fixed payment, and benefits when rates rise. The Short party pays the Underlying rate and benefits when rates fall. Payments are generally netted.

By Dealer convention, FRAs expire in a standard number of exact months, are generally on the most commonly traded Eurodollar rates (e.g., 30-day LIBOR, 60-day LIBOR, etc.) and use a special notation with first the number of months to contract expiration and then the number of months from the contract initiation date till the interest payment date, with the LIBOR period equal to the difference between the two numbers. For example:

1 X 3 FRA	=	One month to contract expiration (i.e., the first number is “1”), an Underlying rate of 60-day LIBOR (i.e., 30 days times [3 – 1]) in 30 days, and payment in 90 days (i.e., the second number “3” times 30 days)
1 X 4 FRA	=	One month to contract expiration, an Underlying rate of 90-day LIBOR in 30 days, and payment in 120 days
1 X 7 FRA	=	A contract that has: • a one month expiration • an Underlying rate of six month (or 180-day) LIBOR • a seven month (or 210-day) maturity for the Underlying Eurodollar instrument • an immediate payoff at contract expiration equal to the present value on the Expiration Date of the interest that will be paid 180 days later, discounted by the 180-day LIBOR Spot rate on the Expiration Date
3 X 6 FRA	=	Three months to contract expiration, an Underlying rate of 90-day LIBOR in 90 days, and payment in 180 days
6 X 12 FRA	=	Six months to contract expiration, an Underlying rate of 180-day LIBOR in 180 days, and payment in 360 days
12 X 18 FRA	=	Twelve months to contract expiration, an Underlying rate of 180-day LIBOR in 360 days, and payment in 540 days)

- **Weather Forwards:** Forward Contracts in which the Underlying is a measure of temperature or other measurable weather variable. OTC contracts are tailored to the specific requirements of the Counterparties. The Chicago Mercantile Exchange (**CME**) offers standard exchange-based contracts built on average temperatures in several cities in North America, Europe and Asia. The CME is introducing precipitation and snowfall contracts.
- **FX** (**Foreign Exchange**) **Swap** [a Forward Contract]**:** A Long Forward Contract position on a foreign currency and a Short Forward Contract position on the same currency with a different expiration. Although the word “Swap” appears in its title, an FX Swap relates to paired Forward Contract positions, unlike a traditional Swap transaction.

4.2.2. Swaps

Swaps are OTC Forward Commitment Derivative financial contracts that obligate the two parties to exchange a series of cash flows at specified intervals (i.e., the **Payment** or **Settlement Dates**) according to a predetermined rule. At least one series of cash flows will float with future changes in an underlying instrument, and the other series will be **Fixed** or **Floating** (aka **Variable**) against a different underlying. Swaps start with a market value of zero so an initial investment is not required. A collateral deposit may be required by either party, depending on credit rating. Swap features include:

- **Settlement (**or **Payment) Date**(**s**)**:** Date when the parties make cash flow payments.
- **Payment of Notional Amounts**: Generally there are no payments of Notional Amounts. But they may be stipulated in a Currency Swap and, if so required, they are paid at inception and at expiration for both sides of the Currency Swap, in each party’s respective currency.
- **Netting** (**Payment Netting** or **Netted):** The offsetting against each other of all the cash flow payments due from each party on the same date into one (consolidated) payment that is the net amount due, thereby reducing Settlement Risk. With Currency Swaps, each party pays the gross amount due in their respective currency, without netting.
- **Close-out Netting:** In the event of a bankruptcy, the market value of all of the credit exposures between two parties are consolidated (or netted) into a single net overall value that is due from one party to the other. Close-out Netting reduces Credit Risk and Systemic Risk. Payments generally are not netted in Currency Swaps.

Swaps are subject to default by either party and may be terminated or effectively cancelled by a party:

- Paying the Counterparty the market value of the Swap,
- Entering into a Swap with offsetting payments, e.g., Exercising a **Swaption** (i.e., an **Option** to enter into a Swap) to enter into an offsetting Swap,
- Selling the Swap to a third party.

Swaps include:

- **Asset Swap**: a hybrid instrument that combines an Underlying debt with a Swap and occasionally with other financial instruments (e.g., to convert a fixed-coupon asset into a floating-coupon asset and visa versa)
- **Basis Swap:** Basis is the Spread or difference between two prices or interest rates. In a Basis Swap involving Futures, Cash Settlement is calculated on a specified date, based on the Basis between a Futures Contract and the Spot Price of the related Underlying [Commodity].

  Basis Swaps can also refer to the difference between two different, but related prices or indices (e.g. Libor and T-bill rates). One party pays periodic amounts based on a floating rate (e.g., LIBOR) or on a price and the other party pays periodic amounts based on another floating rate (e.g., the T-bill rate), or on another price with both rates reset periodically. All calculations are based on a Notional amount of the given currency.
  - ► Both parties pay on a different floating rate.

- **Equity** or **Equity Index Swap:** a Swap in which one party pays periodic amounts in a given currency based on a fixed price or rate, a floating rate, or the return on an equity different from the Counterparty. The Counterparty pays periodic amounts in the same or a different currency based on the performance or return of an equity, including a share of an issuer, a basket of shares of several issuers, or an **Equity Index** (i.e., a measure of an individual stock or basket of stocks' performance; such as the Standard and Poor's 500 Index, Dow Jones Industrial Average or Toronto Stock Exchange Index).
  - ► At least one of an Equity Swap's payment streams derives from an equity instrument and the equity-related payment(s) is(are) unknown until the end of the settlement period, when the equity return is known.

  - **Commodity Swap:** a Swap in which one party pays periodic amounts in a given currency based on a fixed price and the counterparty pays periodic amounts in the same currency based on the price of a Commodity or of a Futures Contract on a Commodity. All calculations are based on a Notional quantity of the Commodity. A **Commodity-for-Interest Swap:** is similar to the Equity Swap in which payments related to change in the Underlying Commodity are exchanged for a money market rate plus or minus a Spread.

  - ► At least one of a Commodity Swap's payment streams derives from a Commodity index.

- **Currency Swap:** a Swap transaction in which two parties exchange specific amounts of two different currencies at the initiation and repay over time according to a predetermined rule. The periodic interest payments are calculated on a pre-set Notional amount and the initial and or final payments may include an exchange of Notional amount in each party's respective currency. The choice of each party to pay a fixed or floating interest rate depends on each party's expectation of interest rate movements and creates four types of Swaps:
  - o Pay one currency fixed and receive a different currency fixed
  - o Pay one currency fixed and receive a different currency floating
  - o Pay one currency floating and receive a different currency fixed
  - o Pay one currency floating and receive a different currency floating

  - ► A Currency Swap is an exchange of interest payments in different currencies with specified periodic payments that may involve initial and or final payments of the Notional Amount. Parties may exploit comparative advantage in their respective borrowing markets across different currencies and maturities. Currency Swaps have greater Credit Risk than Interest Rate Swaps because of the exchange and re-exchange of Notional Amounts.

  - ► An Interest Rate Swap is a Currency Swap with one side floating, both sides in the same currency and no exchange of principal.

- **Cross Currency Rate Swap:** A Currency Swap (as defined above) where at least one side is floating. Stated differently, an Interest Rate Swap involving different currencies, with optional exchanges of Notional Amounts.

  - ► The periodic payment amounts are in different currencies and are on a fixed or floating interest rate for one party and only a floating interest rate for the other party.

- **Interest Rate Swap:** A Swap in which two Counterparties exchange interest payment streams in the same currency, based on a Notional Amount. At least one party pays a floating rate, based on an Underlying instrument. The other party pays a fixed rate, or a floating rate based on a different instrument.

  - ► An Interest Rate Swap (i) only exchanges interest payment cash flows, not Principal Amounts, (ii) permits the parties to exploit their comparative advantage in borrowing or lending in the short versus the long-end of the maturity spectrum, (iii) creates exposure to Interest Rate Risk, (iv) is similar to a strip of Forward Rate Agreements, (vi) could be considered as a Currency Swap if the currencies are different, and (vi) could be created with a combination of Currency Swaps.

- o **Plain Vanilla Interest Rate Swap:** An Interest Rate Swap in which one party makes floating-rate payments and receives fixed-rate payments all in the same currency.

- **Total (Rate of) Return Swap (**aka **TR Swap):** A contract in which one party receives interest payments on an Underlying (or reference asset) plus any capital gains and losses over the payment period, while the other receives a specified fixed or floating cash flow unrelated to with payments based on the same notional amount. The reference asset may be any asset, index, or basket of assets.

  One type of Total Return Swap is a **Credit Default Swap** (i.e., A bilateral OTC contract in which the seller agrees to make a payment to the buyer in the event of a specified credit event in exchange for a fixed payment or series of fixed payments. It is the most common type of Credit Derivative, is called a Credit Swap and is similar to Credit Default Option) which can offset the Credit and Market Risks in owning financial instruments, as follows:
  - o a party**,** the **Total Return Payer** (or the **Protection Buyer when the Underlying is also held**):
    - ◆ owns one or more loans, debt Securities, Derivatives or other financial instruments (the **Reference Obligations** or **Assets**), on which it receives the Total Return, that were issued, guaranteed or otherwise entered into by a third party (the **Reference Entity**)
    - ◆ enters into a TR Swap with the **Total Return Receiver** (i.e., the **Protection Seller**) to pay the Total Return on the Reference Obligations or Assets to the Protection Seller
    - ◆ pays to the Protection Seller a single amount or periodic amounts based on the Total Return on and calculated by reference to interest, dividend and fee payments and any appreciation in the market value of the Reference Obligation(s) [If the Total Return on the Reference Obligations or Assets is negative, the Protection Buyer receives the amount of the negative return from the Protection Seller]

  and
  - o the counterparty (the **Total Return Receive**r or **Protection Seller**):
    - ◆ enters into a TR Swap with the Total Return Payer (i.e., the Protection Buyer)
    - ◆ receives a single amount or periodic amounts based on the [positive] Total Return on and calculated by reference to interest, dividend and fee payments and any appreciation (or depreciation) in the market value of the Reference Obligation(s) [If the Total Return is negative, the Protection Seller pays the amount of the negative return to the Protection Buyer]
    - ◆ pays an Underlying fixed or floating (e.g., LIBOR) rate plus a Spread

All amounts for both parties are determined by reference to the Notional Amount.

A Total Return Swap may provide for acceleration of its termination date upon the occurrence of one or more specified events with respect to a Reference Entity or a Reference Obligation/Asset with a termination payment made by one party to the other calculated by reference to the value of the Reference Obligation/Asset.

► The Protection Buyer has exchanged the Total Return including the Credit Risk on a Reference Obligation/Asset for the specified fixed or floating cash flow(s) and accepts the Credit Risk of any net payments due from the Counterparty.

► The Protection Seller:
- receives the excess of the Risky Reference Obligation's or Asset's Total Return over the specified cash flow(s)
- pays the agreed fixed or floating rate cash flow
- accepts the Credit Risk of the Reference Obligations or Asset(s)
- accepts the Credit Risk of any net payments due from the Counterparty
- synthetically buys Risky debt/assets with 100% leverage

4.3 Exchange-traded Forward Commitments Futures Contract

An Exchange-traded Forward Commitments Futures Contract is a publicly traded, standardized agreement in which one party is obligated to buy and the Counterparty is obligated to sell an Underlying on a future date at a price determined at the start of the contract.

- **Futures Exchange** (i.e., a central clearinghouse) : Creates, regulates, standardizes (the position or trading limits, quality, quantity and Delivery Point and time, but not the price which is discovered in a pit on the exchange's trading floor or electronically) and participates in the contract and guarantees the parties' payments and performance through a clearinghouse that requires the buyer and seller to settle daily (i.e., **Mark to Market)** their gains and losses to the exchange
- **Original** (or **Initial**) **Margin:** The deposit required when a party buys or sells a Futures Contract [Financial guarantees are required of buyers and sellers of Futures Contracts]
- **Satisfaction of the contract** may be by:
  - o **Delivery:** the tender by the seller and receipt by the buyer of the Underlying, the cash value of the

Underlying (i.e. a **Cash Settlement**) or a delivery instrument covering the Underlying, or
- o **Offset (or Cover):** liquidating a purchase/short sale through the sale/purchase of an equal number of contracts of the same delivery month

- **Delivery Point:** The location upon contract termination where the **Short** (i.e., the party whose open sales exceed open purchases) must deliver the Underlying Commodity to the **Long** (i.e., the party whose open purchases exceed open sales) in fulfillment of a Futures Contract
- **Spot:** Same as Spot (Cash) Price, the market for immediate Delivery of or payment for something (e.g., a Commodity or financial instrument)
- **Spot** (or **Nearby Deliverable**) **Month:** The Futures Contract month that is closest to expiration. The Futures Contract that matures and becomes Deliverable during the current month.
- **Spot (Cash) Price:** The immediate Delivery price at a specified date and place for something (e.g., Commodity or financial instrument)
- **Hedge Ratio:** A Hedge Ratio communicates the number of Futures Contracts required to **Hedge** (i.e., to offset the price Risk in a cash market position by taking an equal but opposite position in a Futures market) a cash market position
- **Convergence** (aka **a Narrowing of the Basis):** The closing of the gap between the cash and future prices as a Futures Contract nears its expiration (i.e., The Basis approaches zero). On its last trading day, the contract settles into a Forward Contract

► In summary, a Futures Contract is an Exchange-Traded contract that generally calls for the delivery of a specified amount of a particular grade of a Commodity or specific financial instrument at a fixed date in the future.

Futures contracts include:

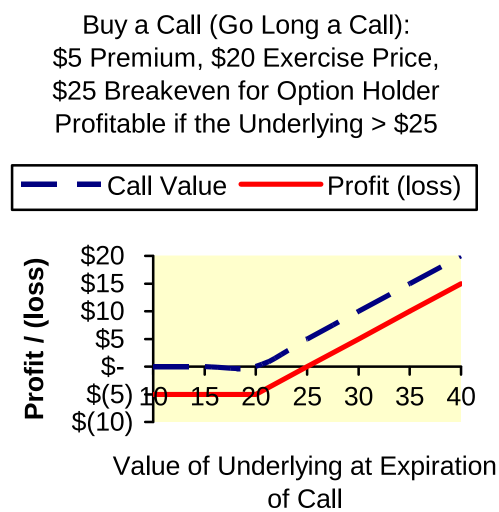
- **Currency Futures:** The Underlying include the major foreign currencies
- **Housing Futures:** To-be-launched in 2006, Futures that are based on the Case-Shiller Indexes® of single family home prices for Boston, Chicago, Denver, Las Vegas, Los Angeles, Miami, New York Commuter Area, San Diego, San Francisco, Washington DC and Composite Index of the 10 cities, traded on the CME and settled in cash
- **Short-Term** Interest **Rate Futures:** Generally trade on the Chicago Mercantile Exchange (the **CME**) and include:
  - o **Treasury Bill Futures:** The Underlying is the 90-day $1,000,000 U.S. Treasury Bill
  - o **Eurodollar Futures:** The Underlying is the interest rate on a 90-day U.S. Dollar-denominated time deposit issued by a London bank
- **Intermediate and Long-Term Interest Rate Futures:** In the U.S. market the Underlying are U.S. treasury notes and Bonds
- **Stock Index Futures Contracts:** The Underlying includes one or more stock indicies of most developed countries

4.4. OTC or Exchange-traded Contingent Claim Derivatives

4.4.1. (Standard Asset) Options (on Assets)

Options are OTC or Exchange-traded, firm and binding agreements in which the Long Party purchases a Call or Put and the Short Party sells a Call or a Put, respectively:

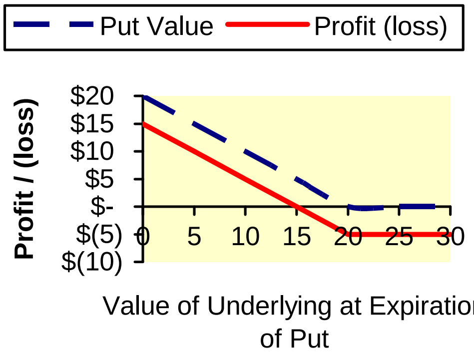
1. The Long party (the **Option Holder** or **Buyer**) pays an amount (the **Option Premium** or **Price**) to acquire (or to **Go Long**) the right, but not the obligation, (collectively, the **Option**) over a stated term, potentially:
   A) In the case of a Call Option, to buy (or to **Call**) at an initially-determined fixed price (the **Exercise**, **Strike** or **Striking Price** or the **Strike**), the Underlying. An example of the profit/loss profile at Expiration of a typical Long Call Option position is graphed below.



or:

   B) In the case of a Put Option, to sell (or to **Put**) at the Exercise Price the Underlying at Expiration to the Counterparty (the **Put Option Seller**). An example of the profit/loss profile at Expiration of a typical Long a Put Option position is graphed below.

Buy a Put (Go Long a Put)
$5 Premium, $20 Exercise Price,
$15 Breakeven for Option Holder
Profitable if the Underlying < $15

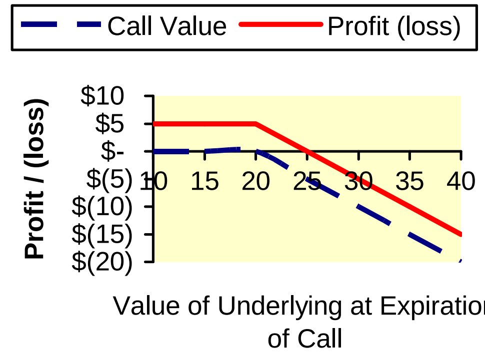


Collectively, for both Calls and Puts (i.e., sections A and B above), the Option Holder:

i. Acquires the right to **Exercise the Option on** an Underlying
ii. May elect to:
   a) Sell the Option back to the Short Party,
   b) Exercise the Option, or
   c) Decide not to Exercise the Option on the Underlying and allow the Option to **Expire Unexercised**
iii. If it Exercises the Option, it may Exercise either only on the Expiration Date (i.e., an **European-style Exercise** or a **European Option**) or on any day through the Expiration Date (i.e., an **American-style Exercise** or an **American Option)** and
iv. Accepts that the only Credit Risk of a default is by the Option Seller upon the Option Holder's Exercising or sale of an OTC-traded Option. In an Exchange-traded Option (since the Exchange's Clearinghouse is unlikely to fail and the Option Seller is never exposed to Credit Risk from the Buyer), Credit Risk is limited to the exchange dealer, if the option is held on the books of the dealer.

2. The Short Party (the **Option Seller**) receives the Option Premium for selling (or **Going Short**) the Option and for accepting the mandatory obligation over a stated term, potentially:
   A) In the case of a Call Option, to sell at the Exercise Price the Underlying at Expiration to the Counterparty (i.e., the Call Holder). An example of the profit/loss profile at Expiration of a typical Short Call position is graphed below.

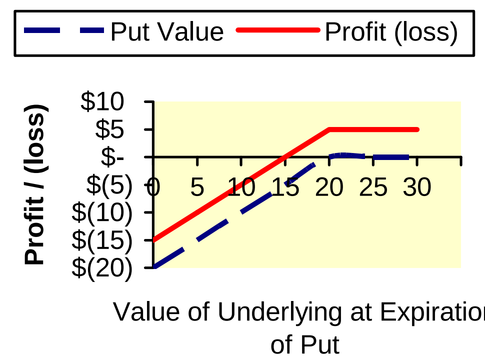
Sell a Call (Go Short a Call):
$5 Premium, $20 Exercise Price,
$25 Breakeven for Option Seller
Profitable if the Underlying < $25



or:

B) In the case of a Put Option, to buy at the Exercise Price the Underlying at Expiration from the Counterparty (i.e., the Put Holder). An example of the profit/loss profile at Expiration of a typical Short Put position is graphed below.

Sell a Put (Go Short a Put)
$5 Premium, $20 Exercise Price,
$15 Breakeven for Option Seller
Profitable if the Underlying > $15



► A Long Option's Payoff is contingent on whether the market conditions are favorable for the Option Holder to Exercise the Option. Only the Option Seller has a mandatory commitment or obligation, because the Option Holder (or Buyer) holds the sole right to Exercise. The Long position's maximum loss, not considering the opportunity loss, is the Premium. For a Call, the Short position's maximum loss is unlimited, if the Short does not hold inventory securities to cover the Exercise Risk (i.e., if the Short is **Naked**). For a Put, the Short position's maximum loss is limited by the Strike Price less the amount of Premium collected.

- **Interest Rate Options:** OTC or Exchange-traded Options {compare to Interest Rate Forwards} to make a known interest payment and to receive another unknown, future interest payment in which the:
  - **Underlying** is an unknown, future interest rate
  - **Exercise** (or **Strike**) **Rate:** the fixed rate at which the owner can buy or sell the Underlying
  - **Payoff after contract Expiration:** the difference between the Underlying Spot Rate and the Exercise Rate, multiplied by the Notional amount, and adjusted for term, e.g., 90-day Libor equals**:**

$$\left[\begin{pmatrix}\text{Underlying}\\ \text{Rate at}\\ \text{Expiration}\end{pmatrix} - \begin{pmatrix}\text{Exercise}\\ \text{Rate}\end{pmatrix}\right] \times \begin{pmatrix}\text{Notional}\\ \text{Amount}\end{pmatrix} \times \left(\frac{90\text{ days}}{360\text{ days}}\right)$$

  - **Interest Rate Call:** an Option for the Holder to pay a known **interest** payment (based on the Exercise Rate or Strike Rate) and to receive an unknown, interest payment (based on the future market rate).
    - An Interest Rate Call Option is exercised by the Holder when the unknown Underlying interest rate exceeds the Exercise Rate (or is **in-the-money**) and will be profitable when the payoff exceeds the Option Premium paid for the Call. The maximum potential loss for the Holder is the initial Premium.
    - Interest **Rate Call Buyer** or **Holder** (the **Long Call Party**) expects that interest rates will increase.
    - **Interest Rate Call Seller** (the **Short Call Party**) expects that interest rates will decrease or remain flat.
  - **Interest Rate Put:** An Option for the Holder to make an unknown Underlying interest payment and to receive a known interest payment
    - Interest Rate Put Option will Payoff at **Expiration** to the Holder, is exercised by the Holder when the unknown Underlying rate is less than the Exercise Rate (or is **in-the-money**) and is profitable to the extent that the Payoff exceeds the Option Premium
    - **Interest Rate Put Buyer** or **Holder** (the **Long Put Party**) expects that interest rates will fall
    - **Interest Rate Put Seller** (the **Short Put Party**) **expects** that interest rates will increase or remain flat
  - **Out-of-the-money Options** have zero Intrinsic Value and Expire Unexercised
  - **Notional Principal** is the stated size of the Option contract
  - **European-style Exercise** is prevalent and generally may be exercised only on the last business day before the Expiration Date
  - **Cash Settlement** is normal
- **Callable Bonds:** OTC or Exchange-traded, **Structured** (i.e., a financial instrument: That has an embedded Call Option or Forward; Whose cash flow may depend on at least one index; Whose return and prepayment are dependent on changes in the Underlying's value) Bonds in which the issuer holds the right, but not the obligation, to retire the debt before maturity upon predetermined terms
- **Convertible Securities:** A Security (e.g., a Bond or Preferred Stock with an embedded Option) that is convertible into another Security usually, but not always, from the same issuer at a predetermined rate of conversion (the **Conversion Ratio**).
- **Putable Bonds:** Bonds with a embedded Put Option in which the Bondholder has the right (but not the obligation) to require the issuer to retire the Bonds before maturity upon predetermined terms, and
- **Warrants:** The OTC or Exchange-traded, long-term rights (a form of Call Option) that an issuer grants to an existing Security holder to buy additional Securities. Generally a corporation grants **Call Warrants** to current stockholders that are dilutive, or change the number of claims against the corporation's assets.

4.4.1.1 Cap

[a] **Cap:** An Option agreement that pays the Option Holder to the extent future rates (or prices) exceed an agreed Strike Price, for a series of periods.

4.4.1.2 Floor

[a] **Floor:** An Option agreement that pays the Option Holder to the extent the agreed Strike Price exceeds future rates (or prices), for a series of periods.

4.4.1.3 Collar

[a] **Collar:** An Option strategy where the purchase of a Put is combined with the sale of a Call, effectively providing protection against a declining price while increasing exposure to an increasing price. When the Underlying instrument is owned, the exposure to an increasing price is offset. A Collar can also involve the opposite Option positions, and the Risk of the Short Put position can be offset by a Short in the Underlying. In a typical Collar, the Premiums of the Call and Put nearly or entirely offset each other.

Collar using Caps and Floors can combine (i) a Short Cap and a Long Floor, or (ii) a Long Cap and a Short Floor to protect against a specified level of an index or interest rate by giving up gains at a different level of an index or interest rate.

4.4.1.4 Spread

[a] **Spread:** an Option strategy created when the same party buys one and sells another Option on the same Underlying with the same Counterparty that are identical except for their Expiration or Exercise Price. In a Spread, the Long and Short position are both Calls, or both Puts.

4.4.2 Exchange-traded Contingent Claim Derivatives

Options on Futures: Exchange-traded Options in which the:

- Underlying is a Futures contract
- Contract expires on the Underlying Futures' Expiration Date is effectively an Option on the Spot asset that Underlies the Futures
- **Call Option on a Futures:** an Option to go Long; a Futures contract at a fixed Futures Exercise Price
- **Put Option on a Futures:** an Option to go Short; a Futures contract at a fixed Futures Exercise Price.

4.5. OTC Contingent Claim Derivatives:

- **Asset-backed Security (ASB) with a Prepayment** Option**:** A fixed income Security with a Prepayment Option whose value depends on the value of the Option and on the value and cash flow from an Underlying pool of contract payments, credit payments, loans, mortgage debt service, Real Estate rents, receivables and/or royalties and that:
  - Pays its coupon and Principal Amounts from the cash flow of the Underlying Assets (i.e., the ASB **Collateral**)
  - Has a separate, marketable and defined claim on each of the different segments (or **Classes**, **Pieces**, or **Tranches**) of the Underlying cash flow and Collateral,
  - Can have a guaranty from the issuer (e.g., an agreement to repurchase defaulted loans) or a separate guarantor (e.g., a standby letter of credit for defaults),
  - Sells in individual units of each Tranche to investors whose different Investment Objectives and Constraints most closely match each Tranche's unique characteristics,
  - Uses a **Securitized Conduit** or **Conduit**, that was formed as a bankruptcy-remote Special Purpose Entity by the sponsoring financial institution or the issuer, to assemble, by originating or purchasing, the pool of Underlying Assets, and
  - Pays the excess (i.e., the **Residual Coupon Spread** or **Excess Collateral**) of the cash flow of the Underlying Assets above the Conduit's securities to designated Tranches, usually the Residual Security.
- **Credit Spread Option**: Normally an OTC-traded, Contingent Claim, Credit Derivative in which the Call Option Buyer pays an Option Premium to the Call Option Seller for the right (but not the obligation) to receive from the Call Option Seller a payment calculated on the difference in yields (i.e., the **Yield Spread**) between a specified Bond and a recognized-default-free Security.

- **Credit Swaps**: Normally OTC-traded, Contingent Claim **Credit Derivatives** in which a holder (i.e., the Protection Buyer) of an asset or Derivative (i.e., the **Reference Asset**) buys protection against a Credit Loss by paying to the seller of the Derivative (i.e., the Protection Seller) periodic amounts (i.e., the **Premium**) for the Protection Seller's promise to pay compensation in the event that a third party defaults.
  [see the three other forms of a Credit Derivative; i.e., a Total Return Swap, Credit Spread Option and Credit-Linked Note}

A Credit Swap is not really a Swap and is similar to an Option because only Protection Buyer always make a payment, and the Protection Seller's payment of the defined compensation is contingent upon the occurrence of a specified Credit Event by a third party.

- **Exotic Options:** Normally OTC Options with non-standard, complex (payout) structures that are created to solve unique, narrow and/or time-specific and frequently rare, market demands, including:
  - **Asian Options:** Exotic Options whose payoff depends on the average price of the Underlying during a portion of the Option's life
  - **Barrier Options:** Plain Vanilla Options with one or two trigger prices, **either** of whose triggering anytime before maturity will initiate a predetermined Option (i.e., the **Knock-In Option**) or will terminate an existing Option (i.e., the **Knock-Out Option**)
    - **Double Barrier Options:** Exotic Options with barriers on either side of the Strike (i.e., one trigger price is greater than the Strike and the other trigger price is less than the Strike)
    - **Single Barrier Options:** Exotic Options have one barrier that may be either greater than or less than the Strike
    - A **Double Knock-Out Option:** Cheaper than a **Single Knock-out Option** because it has two trigger prices either of which could knock the Option out of existence
  - **Chooser Options:** Exotic Options transacted in the present, but at a specified future date are chosen to be either a Put or a Call Option
  - **Collapsible Swaps:** A combination of a Plain Vanilla Swap with an Option on the Swap (i.e., a **Swaption**) with the same terms except for buying fixed rates and receiving floating rates. The cash flows will offset and the Swap effectively is closed out because the Swaption and Swap are with the same financial institution

  - **Compound Option:** An Exotic Option that is an Option-on-an-Option (e.g., a **Call-on-a-Call** or a **Put-on-a-Put**)
  - **Delayed Start Swaps:** Exotic Options that are Plain Vanilla Swaps except that the start date of the Swap is not immediate
  - **Indexed Principal Swaps:** Exotic Options in which the Principal Amount is not fixed for the Option's life, but is tied to the level of interest rates
  - **Look-back Options:** Exotic Options whose payoff depends on the minimum or maximum price of the Underlying during a portion of the Option's life
  - **Reverse Knock-out Options:** A Knock-Out Option in which the barrier is In-the-Money with respect to the Strike

5.0 Estimating the Price and Value of Derivatives

Each investor has a unique set of Investment Return Objectives, Risk Tolerance Objectives and Investment Constraints and expectations on interest rates and other market conditions. Therefore, each investor makes an individual selection and use of a specific Derivative methodology to estimate the forward price or forward rate (i.e., **to Price a Derivative**) or to estimate the amount required to be paid or expected to be received to engage in a transaction (i.e., **to Value a Derivative**). These imperfect estimations require multiple investor assumptions (e.g., Estimating the Prepayment of a mortgage requires multiple assumptions, as outlined in Appendix B).

The price of a Derivative usually is represented by a current market quotation. The value of a Derivative is the amount of cash that would be paid or received today in exchange for that instrument.

Some factors affecting a Derivative's Price are the:

- **Underlying instrument's cash price**
- **Risk fee or market interest rates**
- **Volatility:** A measurement of Risk (e.g., the annual Standard Deviation of Return) or of how much the Spot is expected to change, or fluctuate, over a given period of time. Expected volatility is a key input for pricing Options. The Premium for an Option relates directly to the implied Volatility of the Underlying. As Volatility increases (decreases), the Premium will increase (fall). If expected Volatility is high, the Spot is expected to move around aggressively and the Premium (for an Option) is high; conversely if the expected Volatility is low, the Spot is expected to move around little and the Premium is low.
  - **Actual Volatility:** A measure of the amount the Spot changes for a stated period of time.
  - **Implied Volatility** (aka **Vol**): A measure of the Volatility of the Underlying indicated (or "implied") by an Option price observed in the market. It is the expected Volatility of the Underlying that is consistent with an Option's price. Note, however, that deep-In-the-Money or deep-Out-of-the-Money Options are relatively insensitive to Volatility and therefore their Implied Volatilities are unreliable.

  Option price sensitivity is measured theoretically by the Derivatives "Greeks", i.e. Delta, Gamma, Rho, Theta and Vega {see § 3.4}.

- **Strike Price**
  - **Space:** When describing a Derivative, is the relation of the Strike to the Spot Rate, or actual cash rate
  - **Spread**: The difference in price or yield between two assets that differ by type of financial instrument, maturity, Strike or other characteristic
    - **Swap Spread**: The difference between the Swap yield curve and the government yield curve for a particular maturity, referring to the market prices for the fixed rate in a Plain Vanilla Interest Rate Swap
- **Time till Expiration**
  - **Expiration:** Corresponds to the Expiration Date of a contract, e.g., the last day for exercising an Option into the underlying Futures contract
  - **Expiration Date:** The termination date of a Derivative, e.g., the last day for exercising an Option or for trading for a Futures contract

5.1 Definitions of Other Price and Value Terms

- **Time** (or **Speculative**) **Value:** The amount the Option's Premium exceeds the Option's Intrinsic Value, usually relative to the time left to Expiration
- **Intrinsic Value:** The relationship of an Option's In-the-Money Strike Price to the current Futures price. e.g., For a Put, the Strike minus Futures price; For a Call, the Futures price minus the Strike
- **Forward Contract Price:** The fixed price or rate, agreed upon the contract initiation date, at which the transaction scheduled to occur at expiration will take place
- **Forward Contract Value:** The current Underlying price minus the present value of the Exercise Price. The contract value today is zero at inception
- **Interest Rate Forward:** A future interest rate implied by the current term structure of interest rates. When the yield curve is sloped positively, an increase in rates is implied
- **Currency Forward Price** (or **Rate**) **under the Interest Rate Parity Theorem:** The Forward Price determined by the Spot exchange rate, the life of the contract (t), the risk free interest rate in the domestic currency, and risk free rate in the foreign currency.

$$\begin{bmatrix}\text{Forward}\\ \text{Price}\end{bmatrix} = \begin{bmatrix}\text{spot}\\ \text{exchange}\\ \text{rate}\end{bmatrix} \times \left[\frac{\left(1+\begin{pmatrix}\text{risk free}\\ \text{domestic}\\ \text{currency}\\ \text{rate}\end{pmatrix}\right)^{t}}{\left(1+\begin{pmatrix}\text{risk free}\\ \text{foreign}\\ \text{currency}\\ \text{rate}\end{pmatrix}\right)^{t}}\right]$$

In a perfect market with Short selling, the market price should equal this calculated price.

- **Currency Forward Value under the Interest Rate Parity Theorem:** is the Spot Rate discounted at the foreign interest rate minus the present value of the forward rate discounted at the domestic interest rate, both discounted over the remaining life of the contract
- **Futures Price under the cost of Carry Model:** is the Spot Price compounded over the life of the Futures contract at the risk-free rate, plus the future value of storage costs, less the future value of cash flows and non-monetary benefits over the life of the contract (all for the related Underlying). Futures Price = [Spot price of Underlying x Compounding] + Future Value of [Costs – (Monetary Benefits + Non-Monetary Benefits)]
- **Swap Market Value:** The value of an Interest Rate Swap is the difference between the present values of the fixed interest payments and the estimated floating interest payments. At inception, the fixed rate is set to make the two present values equal, producing a zero market value for the Swap. Over time, as interest rates change and time passes, the present value calculations may not be equal, resulting in a non-zero value for the Swap. [i.e. is zero at the start – changes to positive for one party and negative to the Counterparty during the life of the Swap, as market conditions change and time passes]

5.2. Synthetic Positions and Put-Call Parity

The prices of Put and Call Options must be consistent with each other, or an arbitrage condition exists in which the under-priced position is bought and the overpriced position is sold till the imbalance ceases. A result of this consistent pricing is that any two of the three Put, Call or Underlying elements of a Derivative can be combined by a Real Estate investor to create the third element. The following example illustrates this point.

- Underlying is a Real Estate-related stock (herein, **Stock**):
  - Current Price of the Stock is $25 per share
- Call Option on the Stock has the following terms:
  - Strike Price is $25
  - 182 days to Expiration
  - Call Premium is $1.55
  - European Style (Exercise only at Expiration)
- Put Option on the Stock has the following terms:
  - Strike price is $25
  - 182 days to Expiration
  - Put Premium is $0.95
  - European Style (Exercise only at Expiration)
- Risk Free Rate for 6 month period = 5% per annum
- If an investor purchases 400 shares of stock, the total purchase cost will be $10,000
- Alternatively, an investor can synthetically create the same position by:
  - purchasing the Call to participate in the upside of the Stock
  - selling the Put to participate in the downside of the Stock
  - purchasing and then tendering at the Expiration a US Treasury bill to produce enough funds to purchase the Stock at $25 upon Expiration of the Call or Put
- At the end of the synthetic position's 182 day period, the following, three, possible outcomes all equate to a purchase of the Underlying for $10,000:
  - **If the Stock price equals $25:** The Put and Call expire worthless and the proceeds from the Treasury bill are used to purchase 400 shares of Stock
  - **If the Stock price is above $25, say $30:** The Call Option provides the right to purchase the Stock for $25; the proceeds from the Treasury bill are used to purchase 400 shares of Stock at the $25 Option Strike Price; and the Put Option expires worthless
  - **If the Stock price is below $25, say $20:** The Put requires the Short party to purchase the Stock for $25, and again the proceeds from the Treasury bill are used to purchase 400 shares of Stock at the $25 Option Strike Price

The following table compares the cost of the synthetic and the underlying positions.

COMPARISON BETWEEN SYNTHETIC VERSUS UNDERLYING

INVESTMENT	SYNTHETIC POSITION
($620)	Call Premium paid ($1.55 x 400)
+ $380	Put Premium received ($0.95 x 400)
($9,760)	Treasury Bill ($10,000) / (1 + .05) $^{(182/365)}$
($10,000)	Total Outlay for Synthetic Position
	UNDERLYING LONG POSITION
$10,000	Direct Stock Investment ($25 x 400)
$0	**Difference Versus Synthetic**

Generally, establishing a synthetic position tends to be more expensive compared to purchasing the Underlying. With the synthetic, more instruments are required with their associated bid/offer Spreads, added commissions, and other costs. Should a Material difference occur between a cash and synthetic position, that difference will disappear quickly as a result of market arbitrage.

The relationship between Puts, Calls, and Underlying is expressed more generically by the following Put-Call Parity formula for European Style Options:

$$\begin{bmatrix}\text{stock}\\\text{price}\end{bmatrix}=\begin{pmatrix}\text{Call}\\\text{price}\end{pmatrix}-\begin{pmatrix}\text{Put}\\\text{price}\end{pmatrix}+\left[\frac{\text{Strike Price}}{\left[1+\begin{pmatrix}\text{risk}\\\text{free}\\\text{rate}\end{pmatrix}\right]^{\left(\frac{\text{days to expiration}}{365}\right)}}\right]$$

The above equation can be rearranged to establish synthetic positions. In the first example, above, the Long positions were a Call and a Risk Free Bond and the Short position was the Put. Those three elements together synthetically created the Stock. Alternatively, the formula could be re-written as follows:

$$\begin{pmatrix}\text{Put}\\\text{price}\end{pmatrix}=\begin{pmatrix}\text{Call}\\\text{price}\end{pmatrix}-\begin{pmatrix}\text{stock}\\\text{price}\end{pmatrix}+\left[\frac{\begin{pmatrix}\text{Strike}\\\text{Price}\end{pmatrix}}{\left[(1)+\begin{pmatrix}\text{risk}\\\text{free}\\\text{rate}\end{pmatrix}^{\text{days to expiration}/365}\right]}\right]$$

Therefore, a synthetic Put is created by 1) Purchasing a Call, 2) Shorting the Stock, and 3) Purchasing the corresponding risk free Treasury. The numbers in the example are used to test each synthetic combination.

A strategy sometimes used by equity investors is to sell Call Options against an Underlying stock position, which can be expressed by the following formula:

$$(+\ \text{Stock Price}) - (\text{Call Price})$$

If we substitute the formula for Stock Price from above, this position translates to:

$$-\begin{pmatrix}\text{Put}\\\text{price}\end{pmatrix}+\frac{\begin{pmatrix}\text{Strike}\\\text{Price}\end{pmatrix}}{\left[1+\begin{pmatrix}\text{risk}\\\text{free}\\\text{rate}\end{pmatrix}\right]^{\left(\frac{\text{days to expiration}}{365}\right)}}$$

In other words, the combination of Writing Options against an existing stock position is equivalent to Shorting a Put and investing in the risk free Bond at the Exercise Price for the term of the Option.

The Put-Call Parity relationship can be used to check the pricing of Options in relation to each other. Should a Material difference develop between different combinations, an opportunity may be available to create synthetically a position at a lower cost, or simply exploit the difference through arbitrage to earn a profit.

6.0 USING ETHICS-BASED COMPETENCY TO CREATE AND IMPLEMENT DERIVATIVES

A CRI Candidate and a CRI Charter holder, as Fiduciary Participants and Service Professionals who use Derivatives in the Real Estate Investment Decision-making and Implementation activities of the Portfolio Management Process, shall:

- maintain knowledge of and comply with all applicable laws, rules, regulations, standards of conduct and statutes
- deal fairly in any market or marketplace
- use relevant competence and Independent, objective judgment
- preserve the confidentiality of client materials and nonpublic information
- disclose fully to a customer and to a client any material conflicts of interest
- act as a prudent expert in the best interests of a client
- have a reasonable basis and supporting documentation for a recommendation in a research report and financial analysis

This ethics-based, competent, professional conduct includes, but is not limited to, Full and Fair Disclosure of Derivatives' unique and evolving investment Returns (e.g., from the Underlying's performance), Risks (e.g., Counterparty Credit, Market, Modeling) and Constraints (e.g., Pricing, Settlement, Valuation).

7.0 SOLVING REAL ESTATE INVESTMENT PROBLEMS WITH DERIVATIVES

The subsections, herein, are identified by a different Real Estate investment "problem", contain the "action required" (to correct the "problem") and a discussion of at least one Derivative strategy "solution" that satisfies the Investment Objectives and Constraints and evidences ethics-based competency {see § 6}.

7.1. PROBLEM: Expected Rate Rise will Increase Borrower's Floating-Rate Debt Payment and Decrease the NOI after Debt

ACTION REQUIRED: Change the floating-rate Debt service payment into a fixed-rate obligation.

7.1.1. SOLUTION I: Use Interest Rate Swap to change Floating-rate to Fixed-rate Debt

{see §4.2.2. Interest Rate Swap explanation}

Given these Borrower Investment Objectives and Constraints:

- Low Return and Risk Tolerance
- Total Return Objective is moderate
- Current Return Objective requires a maximum loan rate of 8% per year
- Risk Objective accepts Counterparty Credit Risk and the opportunity cost Risk of forgoing a potentially lower loan rate due to potential lower market rates
- Cash is not available to buy a Derivative
- Investment time horizon is 4 to 5 years
- Borrowed $10 Million loan for 5 years @ 30 day Libor + 200bp with open prepayment on each interest rate reset date and a life cap of 500 bp above the initial rate
- Sale of property planned in the 4th year
- If rates rise, then Debt service increases and NOI after Debt decreases
- If rates rise, remain higher and all else remains constant, then property value decreases
- If rates fall, remain lower and all else remains constant, then property value increases
- Swap yield curve is positively sloped
- The current 30-day Libor rate is 4.5% per year
- The fixed rate on a 4 year Swap is 5.75%, with the floating side 30day Libor flat.

Explanation of this Interest Rate Swap strategy:

- Counterparty pays Borrower, floating**:**
  $10M x (30-day Libor) x days/360[1]

- Borrower pays Counterparty, fixed**:**
  $10M x 5.75% x days/360[1]

- Borrower pays Lender, floating**:**
  $10M x (30-day Libor + 2%) x days/360[1]

Calculation of Borrower's Interest Rate Swap net rate combined with loan rate:

30-day Libor – (5.75%) – (30 d. Libor + 2%) = – 7.75%

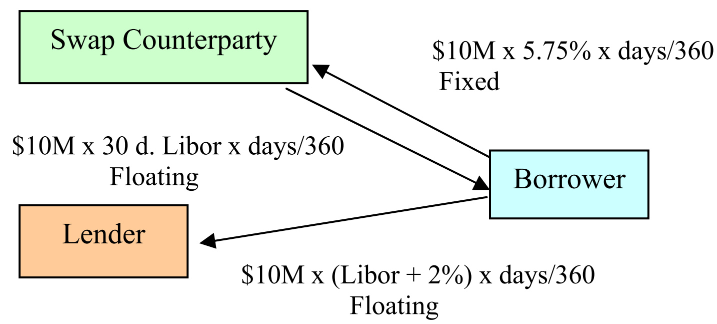
Result: The Borrower concludes that a fixed 7.75% for the entire investment time horizon is better than the existing loan rate of Libor + 2% (or initially 4.5% + 2% = 6.5%) given the Current Income Investment Constraint requires a maximum loan rate of 8%.

Advantage: Borrower fixes its cash outflow for debt, may reduce the debt source of Liquidity Risk and avoids an initial cash cost to create the Derivative position. The market value of Swap increases when market Swap rates (i.e., those rates corresponding to the remaining term of the Swap) increase. [The Swap shortens as time passes. Not only do rates have to rise, they have to rise faster than the forward curve implies]

Disadvantage: Should rates decline, or not increase above the series of forward rates that correspond to the applicable Swap (i.e., the **Forward Swap Curve)**, the market value of the Swap will decrease (i.e., a Market Risk). The borrower also incurrs an opportunity cost, as without the Swap, lower rates would increase the borrower's cash flow**.** Borrower may incur Counterparty Credit Risk.

Ethics: By advising a Borrower on the Swap, a CRI Candidate and a CRI Charter holder have a Fiduciary Duty to that Client {see §6 herein}.

Diagram of Interest Rate Swap [§ 7.1.1] strategy:
Diagram represents cash flows at each periodic payment for the life of the Swap.



7.1.2 SOLUTION II: Go Long 3 X 9 FRA Contract

{see §4.2.1. for Interest Rate Forward details}

Given these Borrower Investment Objectives and Constraints:

- Low Return and Risk Tolerance
- Total Return Objective is moderate
- Current Return Objective requires a maximum loan rate of 7% per year
- Risk Objective accepts the FRA contract's expected Volatility and the Opportunity Cost Risk of forgoing a potentially lower loan rate due to potential lower market rates
- Cash is sufficient to fund any collateral deposit
- Investment time horizon is 6 months, or 180 days
- Investment plan requires $10 Million (M) in 90 days (herein, the **Net Funds Required**)
- Borrower's property value is sufficient to fund in 90 days more than a $10M interest-only, single-payment loan with a 6 mo. loan term and a interest rate paid in arrears on the 180 day dollar Libor (in 90 days) plus a 200 bp Spread
- If rates rise, then the Borrower's Debt service increases and NOI after Debt decreases
- If rates rise, remain higher and all else remains constant, then property value decreases
- If rates fall, remain lower and all else remains constant, then property value increases
- Current 180-day dollar Libor rate (Libor) is 4.75%

[1] *For purposes of illustration, 30-day months, and 360-day year used for all calculations. Industry practice may vary.*

- Current Loan Rate for closing in 90 days is 6.75%
- Borrower expects the Underlying Libor rate at Expiration will rise to 6%
- Current terms on an FRA (Forward Rate) contract:
  - OTC negotiated and traded
  - Underlying is 180 day Libor interest payment
  - Expiration is 90 days from origination, now
  - Dealer-quoted **FRA** (or **Forward**) **Rate** is 5%
  - **Future Rate** (or **Underlying Rate at Expiration)** in 90 days on the Underlying 180 day Libor time deposit is unknown now

Explanation of this Go Long a 3 X 9 FRA Contract strategy:

- Counterparties are the Borrower (the **Long FRA party**) and a Dealer (the **Short FRA party**)
- FRA contract Notional Amount is $10 Million (M)
- Both parties' payment obligations are mandatory
- Borrower**:**
  - uses an FRA contract to protect its Underlying position, the Future Rate on its loan, from the expected increase in Libor rates
  - is long the rate (or the Long FRA party)
  - gains if Libor rates rise and visa versa
  - receives an FRA Payoff from the Dealer and is exposed to the Credit Risk of the Dealer, if the Future Rate exceeds the Forward Rate at Expiration
  - will use an FRA Payoff from the Dealer, if any, to reduce the amount of the loan
  - makes an FRA Payoff to the Dealer and exposes the Dealer to Credit Risk, if the Forward Rate at Expiration exceeds the Future Rate
  - will borrow an FRA Payoff to the Dealer, if any, by increasing the amount of the loan
  - has no credit rating and must make any required collateral deposit.
  - specifies FRA time period & Underlying rate
- FRA Dealer**:**
  - AAA-rated and makes no collateral deposit
  - sets the Forward Rate @ 5%
  - uses FRA to profit from Spread between offsetting positions
  - is short the rate (or the Short FRA party); gains if rates fall; receives a payment from the Borrower/ Counterparty and is exposed to the B/C's Credit Risk if Libor at Expiration is less than the Forward Rate
- ▪ At the FRA contract Expiration in 90 days, the Future (Libor) Rate and time deposit interest payment will be known and paid 180 days later; therefore the FRA Payoff must be discounted at Expiration by the Future (Libor) Rate for the 180 day delay in receipt.

Calculation of Go Long 3 X 9 FRA payments:

#1 **FRA Contract Payoff,** calculated for the FRA Long Party's (herein the Borrower's) position, is paid as a Cash Settlement at Expiration to the:

- the Long Party by the FRA Short Party (herein the Dealer) when the Underlying Rate at Expiration, or the Future Rate, exceeds the FRA Forward Rate, and
- Short FRA Party when the FRA Forward Rate exceeds the Underlying Rate at Expiration, as follows**:**

$$\begin{bmatrix}\text{FRA}\\ \text{Contract}\\ \text{notional}\\ \text{amount}\end{bmatrix} \text{x} \left[\frac{\left(\left(\begin{matrix}\text{underlying}\\ \text{rate at}\\ \text{expiration}\end{matrix}\right)-\left(\begin{matrix}\text{FRA}\\ \text{forward}\\ \text{rate}\end{matrix}\right)\right) \text{x} \left(\dfrac{\begin{matrix}\text{days in}\\ \text{underlying}\\ \text{rate}\end{matrix}}{\begin{matrix}\text{days in}\\ \text{loan year}\end{matrix}}\right)}{(1)+\left(\left(\begin{matrix}\text{underlying}\\ \text{rate at}\\ \text{expiration}\end{matrix}\right)\times\left(\dfrac{\begin{matrix}\text{days in}\\ \text{underlying}\\ \text{rate}\end{matrix}}{\begin{matrix}\text{days in}\\ \text{loan year}\end{matrix}}\right)\right)}\right]$$

#2 **Actual Loan Amount** is:

$$(\$10\text{M})-(\text{FRA payoff})=\text{actual loan amount}$$

#3 **Net Funds Required by the FRA Long Party (the Borrower)** from the Strategy are:

$$\left(\begin{matrix}\text{actual}\\ \text{loan}\\ \text{amount}\end{matrix}\right)+\left\{\left(\begin{matrix}\text{plus FRA}\\ \text{payoff}\\ \text{from Dealer}\end{matrix}\right) \text{or} \left(\begin{matrix}\text{minus FRA}\\ \text{payoff}\\ \text{to Dealer}\end{matrix}\right)\right\}$$

#4 **Borrower's Loan Rate** is:

$$\left(\begin{matrix}\text{underlying}\\ \text{rate at}\\ \text{expiration}\end{matrix}\right)+\left(\begin{matrix}\text{spread on}\\ \text{underlying}\\ \text{rate}\end{matrix}\right)$$

#5 **Borrower's Interest Payment to the Lender with an FRA Payoff to the Long FRA Party (the Borrower)** is:

$$\begin{bmatrix}\text{actual}\\ \text{loan}\\ \text{amount}\end{bmatrix}\times\left[\left(\left(\begin{matrix}\text{underlying}\\ \text{rate at}\\ \text{expiration}\end{matrix}\right)+\left(\begin{matrix}\text{spread on}\\ \text{underlying}\\ \text{rate}\end{matrix}\right)\right)\times\left(\dfrac{\begin{matrix}\text{days in}\\ \text{underlying}\\ \text{rate}\end{matrix}}{\begin{matrix}\text{days in}\\ \text{loan year}\end{matrix}}\right)\right]$$

#6. **Borrower's Total Payment** to the Lender is**:**

$$(\text{Interest Payment})+(\text{Repayment of Actual Loan Amount})$$

#7 **Borrower's Effective Loan Rate with the FRA:**

$$\left(\left(\dfrac{\begin{matrix}\text{Borrower's}\\ \text{total payment}\\ \text{to the Lender}\end{matrix}}{\begin{matrix}\text{net funds}\\ \text{to Borrower}\end{matrix}}\right)-1\right)\times\left(\dfrac{\begin{matrix}\text{days in}\\ \text{loan year}\end{matrix}}{\begin{matrix}\text{days in}\\ \text{underlying}\\ \text{rate}\end{matrix}}\right)$$

Sample Scenarios of this Go Long 3 X 9 FRA strategy:

ii. If the Underlying Rate at Expiration, or Future Rate, (6%) exceeds the FRA Forward Rate (5%):

#1 FRA contract Payoff is a $48,544 payment to the Long FRA Party (the Borrower) from the Short FRA Party (the Dealer), i.e.

$$[\$10M] \text{ x } \left[\frac{((6\%) - (5\%)) \text{ x } \left(\frac{180}{360}\right)}{(1) + \left((6\%) \times \left(\frac{180}{360}\right)\right)}\right] = \underline{\underline{\$48,544}}$$

#2 Actual Loan Amount with the FRA Contract is reduced by the Dealer's FRA Payoff to the Borrower from $10 Million to $9,951,456, i.e.

$$(\$10M) - (\$48,544) = \underline{\underline{\$9,951,456}}$$

#3 Net Funds to the FRA Long Party (the Borrower) are $10M, i.e.:

$$(\$9,951,456) + \left\{\begin{pmatrix}\text{plus}\\ \$48,544\end{pmatrix} \text{ or } \begin{pmatrix}\text{minus}\\ \$0\end{pmatrix}\right\} = \underline{\underline{\$10M}}$$

#4 Borrower's Loan Rate is 8% i.e.:

$$(6\%) + (2\%) = \underline{\underline{8\%}}$$

#5 Borrower's Interest Payment to the Lender without the FRA Payoff to or from the Dealer is $400,000, i.e.:

$$[\$10M] \times \left[((6\%) + (2\%)) \times \left(\frac{180}{360}\right)\right] = \underline{\underline{\$400,000}}$$

#5.1 Borrower's Interest Payment with the FRA Payoff from the Dealer is $398,058, i.e.:

$$[\$9,951,456] \times \left[((6\%) + (2\%)) \times \left(\frac{180}{360}\right)\right] = \underline{\underline{\$398,058}}$$

#6 Borrower's Total Payment to the Lender without the FRA Payoff from the Dealer is $10,400,000:

$$(\$400,000) + (\$10,000,000) = \underline{\underline{\$10,400,000}}$$

#6.1 Borrower's Total Payment to the Lender with the FRA Payoff from the Dealer is $10,349,514, i.e.:

$$(\$398,058) + (\$9,951,456) = \underline{\underline{\$10,349,514}}$$

#7 Borrower's Effective Loan Rate with the FRA Contract is 6.99%, i.e.:

$$\left(\left(\frac{\$10,349,514}{\$10,000,000}\right) - 1\right) \times \left(\frac{360}{180}\right) = \underline{\underline{6.99\%}}$$

i. If Underlying Rate at Expiration, or Future Rate, (4%) is less than the FRA Forward Rate (5%):

#1 FRA contract Payoff is a $49,020 payment from the Long FRA Counterparty (Borrower) to the Short FRA Counterparty (the Dealer), i.e.

$$[\$10M] \text{ x } \left[\frac{((4\%) - (5\%)) \text{ x } \left(\frac{180}{360}\right)}{(1) + \left((4\%) \times \left(\frac{180}{360}\right)\right)}\right] = \underline{\underline{\langle -\$49,020 \rangle}}$$

#2 Actual Loan Amount is increased by the Borrower's FRA Payoff to the Dealer from $10 Million to $10,048,544, i.e.

$$(\$10M) - \langle -\$49,020 \rangle = \underline{\underline{\$10,049,020}}$$

#3 Net Funds to the Long FRA Party (the Borrower) are $10M, i.e.:

$$(\$10,049,020) + \left\{\begin{pmatrix}\text{plus}\\ \$0\end{pmatrix} \text{ or } \begin{pmatrix}\text{minus}\\ \$49,020\end{pmatrix}\right\} = \underline{\underline{\$10M}}$$

#4 Borrower's Loan Rate is 6% i.e.: 4% + 2% = <u>6 %</u>

#5 Borrower's Interest Payment to Lender without the FRA Payoff to or from the Dealer is $300,000, i.e.:

$$[\$10M] \times \left[((4\%) + (2\%)) \times \left(\frac{180}{360}\right)\right] = \underline{\underline{\$300,000}}$$

#5.1 Borrower's Interest Payment with the FRA Payoff to the Dealer is $301,471, i.e.:

$$[\$10,049,020] \times \left[((4\%) + (2\%)) \times \left(\frac{180}{360}\right)\right] = \underline{\underline{\$301,471}}$$

#6 Borrower's Total Payment to Lender without the FRA Payoff to or from the Dealer is $10,300,000:

$$(\$300,000) + (\$10,000,000) = \underline{\underline{\$10,300,000}}$$

#6.1 Borrower's Total Payment to the Lender with the FRA Payoff to the dealer is $10,349,514, i.e.:

$$(\$301,471) + (\$10,049,020) = \underline{\underline{\$10,350,491}}$$

#7 Borrower's Effective Loan Rate with the FRA is 7.01%, i.e.:

$$\left(\left(\frac{\$10,350,491}{\$10,000,000}\right) - 1\right) \times \left(\frac{360}{180}\right) = \underline{\underline{7.01\%}}$$

Result [1]**:** Strategy satisfies Borrower's Objectives and Constraints. If the Underlying Libor Rate rises, as Borrower expects, the Effective Loan Rate won't exceed the

7% maximum and is less than 7% when the Underlying Rate at Expiration exceeds 5%.

[1] Table of the Results of the **Go Long a 3 X 9 FRA Contract** with Underlying Rates at Expiration of 4% thru 7%

Sample scenario described above	ii.	none	i.	none
Libor rate at FRA origination	4.75%	4.75%	4.75%	4.75%
FRA Forward Rate	5.00%	5.00%	5.00%	5.00%
Loan Spread	2.00%	2.00%	2.00%	2.00%
Loan Rate at FRA origination	6.75%	6.75%	6.75%	6.75%
Underlying Rate at Expiration	*4.00%*	*5.00%*	*6.00%*	*7.00%*
Required investment amount	$10,000,000	$10,000,000	$10.000,000	$10,000,000
#1 FRA Payoff	(- $49,020)	$0	+ $48,544	+ $96,618
#2 Actual Loan Amount	$10,049,020	$10,000,000	$9,951,456	$9,903,382
#3 Net Funds to Long FRA Party	$10,000,000	$10,000,000	$10,000,000	$10,000,000
#4 Borrower Loan Rate	6.00%	7.00%	8.00%	9.00%
#5 Interest without FRA	$300,000	$350,000	$400,000	$450,000
#5.1 Interest with FRA Payoff	$301,471	$350,000	$398,058	$445,652
#6 Borrower's Total Payment without FRA	$10,300,000	$10,350,000	$10,400,000	$10,450,000
#6.1 Borrower's Total Payment with FRA	$10,350,491	$10,350,000	$10,350,491	$10,349,034
#7 *Borrower's Effective Loan Rate with FRA*	*7.01%*	*7.00%*	*6.99%*	*6.98%*
Counter Party Credit Risk exposure is held by:	Short Party	Neither Party	Long Party	Long Party

Advantage: FRA Payoff protects the Borrower against higher interest rates. Effective Loan Rate is approximately the same in all scenarios. FRA Contract only requires an acceptable, collateral deposit.

Disadvantage: Borrower increases its opportunity cost if Libor falls, exceeds its maximum 7% Loan Rate if the Underlying Rate at Expiration is less than 4%, accepts the Dealer's Counterparty Credit Risk when the Underlying Rate at Expiration exceeds 5%, and incurs a mandatory FRA Payoff obligation whether or not it proceeds with the Loan or investment.

► Each FRA Contract protects only one Loan interest payment. Therefore an Interest Rate Swap is more common.

Risks: The Long FRA Party (Borrower) is not exposed to Current Credit Risk and is exposed by the to the following Risks: Potential Credit; Default; Herstaatt; Legal; Liquidity; Market Value; Modeling; Operational; Regulatory; and Taxation

Ethics: When a CRI Candidate or Charter holder recommends an FRA strategy to a Client, she/he must explain the disadvantages and Risks, (if contracted for) monitor the relationship between the FRA Contract and Libor, and comply with the principles in the *Definition of a CRI Charter holder*.

Diagram of Go Long 3 X 9 FRA [§ 7.1.2] strategy:

Short FRA Party (Dealer)

FRA Payoff is paid To the Dealer when the FRA Forward Rate exceeds the Underlying Rate

FRA Payoff is paid to the Borrower when the Underlying Rate at Expiration (i.e., the Future Libor Rate) exceeds the. FRA Forward Rate. See calculation # 1, above.

at Expiration

Long FRA Party (Borrower)

Lender

Total Payment to Lender See calculations # 6.0, above.

Formula for the Actual Interest with the FRA Payoff:

$$\left[1+\left(\left(\left(\begin{matrix}\text{underlying}\\ \text{rate}\end{matrix}\right)+(2\%)\right)\times\left(\frac{180}{360}\right)\right)\right]\times\left[\left(\begin{matrix}\text{Net}\\ \text{Funds}\\ \text{desired}\end{matrix}\right)\pm\left(\begin{matrix}\text{FRA}\\ \text{payoff}\end{matrix}\right)\right]$$

8.0 SUPPLEMENTAL INFORMATION ON DERIVATIVES

Supplemental information on Derivative Financial Instruments is available from the following page citations of *Analysis of Derivatives for the CFA Program* by Don M. Chance (Association for Investment Management and Research, 2003, ISBN 0-935015-93-0), which are not included in the compact disc publication, *"CRI Level 2 Exam Content References"* :

- "Put-Call §" and "The Effect of Interest Rates and Volatility", pp. 187 - 192 and 194
- "Pricing and Valuation of Swaps", "Key Points", "Problems" and "Solutions", pp. 287- 294, 489, 490, 497 and 502
- "Key Points" and "The Credit Risk of Swaps", pp. 318, 592-593 and 614

- "Using Interest Rate Swaps to Convert a Floating-Rate Loan to a Fixed Rate Loan and Vice Versa", "Exhibit 8-1" and "in summary", pp. 508-511
- "Sources of Risk" and "Financial Risks", Exhibit 9-1, p. 570

APPENDIX E
Real Estate Related Organizations, Associations and Designations

The information and other material contained, cited or referenced in this Appendix do not constitute any investment, legal or tax advice. They are solely for the purpose of understanding the real estate investment industry. In all events, one should seek independent, qualified counsel.

The following information is a (i) representative list of the organizations and associations that are involved in the real estate investment decision-making and/or implementation activities of the portfolio management process and (ii) description of these entities' professional designations (e.g., CMB, CRI Charter, MAI) and operations. It excludes regulatory entities and their regulations, which are listed in Appendix B.

AAF: The American Architectural Foundation is a 501(c)(3) educational organization. Is purpose is to help people understand the importance of architecture in their lives and then use that understanding to enrich their lives and transform their communities.

AAGS: The American Association for Geodetic Surveying is a Member Organization of ACSM. Its mission is to lead the community of geodetic, surveying and land information data users by developing new educational programs, articles and papers that inform the membership of the latest technical developments and how to implement them in the most cost-effective and efficient manner.

ABC: The Associated Builders and Contractors is a national Trade Association representing merit shop construction and construction-related firms across the United States. It is the construction industry's voice with the legislative, executive and judicial branches of the federal government and with state and local governments, as well as with the news media.

ACLI: The American Council of Life Insurers is a Trade Association for life insurance companies, based in Washington, DC, that collects data from about 500 participating life companies on commercial real estate portfolios, including data on mortgage delinquencies, and disseminate those data. The data represent approximately 85% of all mortgages held by life insurance companies.

ACREL: The American College of Real Estate Lawyers is a Trade Association that gathers lawyers distinguished for their skill, experience and high standards of professional and ethical conduct in the practice of real estate law, who will contribute substantially to the accomplishments, achievements and good fellowship of the College and to the best interests of the bar and the general public through the fulfillment of objectives of the College, which specifically include:

- promoting high standards of professional and ethical responsibility in the practice of real estate law
- seeking to improve and reform real estate law and practice
- making available to the bar and to the public authoritative educational materials in the field of real estate law
- informing the membership of the most current developments in various aspects of real estate law and practice
- addressing issues of importance to real estate law and practice by participating in law reform matters and legislative, administrative and judicial initiatives when appropriate
- cooperating and consulting with national, state and local bar organizations, government agencies and other groups which have an interest in real estate law and practice

ACSM: The American Congress on Surveying and Mapping originally was named the National Congress on Surveying and Mapping when it was founded in June 1941. It is a nonprofit educational association dedicated to serving the public interest and advancing the profession of surveying and mapping. It consists of four Member Organizations that serve as special interest groups: The American Association for Geodetic Surveying (AAGS); The Cartography and Geographical Information Society (CaGIS); The Geographic and Land Information Society (GLIS); and The National Society of Professional Surveyors, Inc. (NSPS). ACSM also includes geographically-oriented Sections that comprise the ACSM Council of Sections.

AAF: The American Architectural Foundation is a 501(c)(3) educational organization. Is purpose is to help people understand the importance of architecture in their lives and then use that understanding to enrich their lives and transform their communities.

AGA: The Associated General Contractors of America, the voice of the construction industry, is a Trade Association. Its member services include legislative and public affairs.

ALTA: The American Land Title Association, founded in 1907, is the national Trade Association and voice of the abstract and title insurance industry. ALTA members search, review and insure land titles to protect home buyers and mortgage lenders who invest in real estate. It improves the skills and knowledge of providers in the real property transaction, advocates member concerns and standardizes products for industry use. The title industry has its own language. {see www.alta.org/consumer/ltiglossary1.pdf}

AM Best: AM Best is a NRSRO credit rating agency.

The Appraisal Foundation: Established by Title 11 of FIRREA of 1989 as the organization responsible for appraiser minimum qualifications (the Appraisal Qualification Board) and minimum standards of appraisal practice (the Appraisal Standards Board). (www.appraisalfoundation.org).

Appraisal Institute®: The Appraisal Institute is an international Trade Association of professional real estate appraisers with members and 99 chapters throughout the United States, Canada and abroad. It supports and advances its members as the choice for real estate solutions and upholds professional credentials, standards of professional practice and ethics consistent with the public good. Its governmental affairs office presents its member needs regarding critical issues impacting the appraisal profession through continuing interaction with Congress and federal agencies, informing it members on key issues and supporting Congressional candidates who are pro-appraiser and pro-real estate through its political action committee, APPAC (the Appraisal Institute Political Action Committee). {See www.appraisalinstitute.org}

ARDA: The American Resort Development Association is the professional association representing the vacation ownership and resort development industries. It provides advocacy, networking, educational development, market intelligence, news and alliance services to its members.

ARES: The American Real Estate Society is a society of and for high-level practicing professionals and real estate professors at colleges and universities throughout the United States and the world.

AREUEA: The American Real Estate and Urban Economics Association is a non-profit association, originated in the 1964, to advance the knowledge of real estate development, planning and economics and to facilitate the exchange of information and opinions among academic, professional and governmental people who are concerned with urban economics and real estate issues.

ASHA: The American Seniors Housing Association originally was a committee of the National Multi Housing Council and became an independent non-profit Trade Association organization. It provides leadership for the seniors housing industry on legislative and regulatory matters, advances research, education and the exchange of strategic business information, and promotes the merits of seniors housing.

ASLA: The American Society of Landscape Architects is the national professional association representing landscape architects. It promotes the landscape architecture profession and advances the practice through advocacy, education and communication.

ASTM International: ASTM International is a non-profit organization that provides a voluntary forum for producers, users, consumers, and other industry representatives to meet and produce standards for materials, products, systems, and services.

BOMA: The Building Owners and Managers Association International is a Trade Association, founded in 1907, that acts as a primary source of information on office building development, leasing, building operating costs, energy consumption patterns, local and national building codes, legislation, occupancy statistics and technological developments. It focuses representing and promoting the interests of the commercial real estate industry through leadership and advocacy, through the collection, analysis and dissemination of information, and through professional development.

Bond Market Association: A Trade Association representing the largest Securities markets in the world.

CaGIS: The Cartography and Geographical Information Society is an ACSM Member Organization that serves as the primary focal point in the United States for individuals interested in cartography and geographic information related professions.

CCIM®: The Certified Commercial Investment Member® designation is conferred by the CCIM institute and was established in 1969.

CFA® designation: The Chartered Financial Analyst® designation is a globally recognized standard for measuring the competence and integrity of investment professionals. {see CFA Institute}

CFA Institute®: Formerly the Association for Investment Research and Management®, the CFA Institute is a §501(c)(6) tax-exempt organization that has its genesis in 1925. The global membership organization in 117 countries that awards the CFA® designation and leads the investment industry by setting high standards of education, ethics and professional excellence and by advocating fair and transparent capital markets. It controls the Research Foundation of CFA Institute, a §501(c)(3) non-stock tax exempt membership organization, that identifies, funds, and publishes research that is relevant to the CFA Body of Knowledge and that is useful to CFA Institute members, investment practitioners and investors and that promotes education in the area of finance and business and related fields.

CFA®, Charter Financial Institute® and AIMR® are trademarks owned by the CFA Institute. {see AIMR®}

CFP® certification: The Certified Financial Planner™ designation is a NCCA accredited certification of the Certified Financial Planner Board of Standards, Inc. (CFP Board), that helps people benefit from competent, professional and ethical financial planning. The CFP Board was founded in 1985.

Chartered Realty Investor Society: The Chartered Realty Investor Society is an independent industry-based organization that is dedicated to establishing and maintaining standards of excellence and certifying ethics-based competency of the commercial real estate investment professionals. The specialized and diverse disciplines of the industry are represented through the Board of Governors, committees and task forces that guide the development of the certification program. The Chartered Realty Investor Society is a not-for-profit 501(c)((6) corporation and is sponsored by the Commercial Real Estate Education Foundation.

CMB: The Certified Mortgage Banker professional designation is awarded by the Mortgage Bankers Association of America.

CMSA®: The Commercial Mortgage Securities Association is an international Trade Association for the commercial real estate capital markets that seeks to improve the liquidity of commercial real estate debt Securities through access to the capital markets. It monitors regulatory and legislative bodies in markets around the world to keep its members apprised of any laws, regulations or standards that are being anticipated that may impact their business. It also participates with other Trade Associations in industry coalitions to comment on issues that may affect the CMBS industry and directs a federal political action committee (CMSA PAC) that raises funds and contributes to federal candidates for office.

CoreNet Global: An organization that was created from the integration of the former International Development Research Council (IDRC) and The International Association of Corporate Real Estate Executives (NACORE International) to become the single voice for the corporate real estate industry and related professionals. It focuses on advancing knowledge, connecting people, promoting personal excellence.

Council of Institutional Investors: An organization of over 140 large public, labor and corporate pension funds, whose total assets exceed $3 trillion, and o more than 130 educational sustainers that addresses investment issues that affect the size or security of plan assets. It encourages member funds to take an active role in protecting plan assets and helps members to increase their investment return as part of their fiduciary obligations.

CPM®: Certified Property Manager® is the designation awarded by the Institute of Real Estate Management to the top professionals in the real estate management industry.

CRE: The Councilors of Real Estate is a professional membership organization founded in 1953 that advances, enhances, and supports its members by serving as a resource for information, by creating opportunities for professional development, by facilitating networking, and by providing the benefits of camaraderie. The CRE Designation is bestowed by invitation only in recognition of a person's achievements in real estate counseling

CREEF: The Commercial Real Estate Education Foundation is a 501(c)(3) not-for-profit corporation dedicated to the support of the Chartered Realty Investor Society and the Chartered Realty Investor® (CRI®) designation. The Foundation is the organization that funds the research and development of the exams for the CRI designation. The Foundation seeks start-up funding from sources committed to excellence, education and professionalism in commercial real estate finance and investment.

CREW (aka **CREW Network):** The National Council of Real Estate Women is a full service business development network that advances the success of women in commercial real estate. It consists of 56 chapters whose members are involved in all aspects of commercial real estate throughout the United States and Canada.

CRI®: The Chartered Realty Investor® professional designation is awarded by the Chartered Realty Investor Society.

Dominion: The Dominion Bond Rating Service Limited is a credit rating agency.

DUS: Fannie Mae's designated underwriter and servicing program.

Fannie Mae: Federal National Mortgage Corporation is a U.S. government sponsored entity charged by the U.S. Congress to facilitate liquidity in the U.S. residential, mortgage market.

FASB: Financial Accounting Standards Board.

FHA: Federal Housing Administration.

Fitch: Fitch, Inc. is a NRSRO credit rating agency.

Freddie Mac: The Federal Home Loan Mortgage Corporation (or FHLMC) is a U.S. government sponsored entity (or **GSE**) that is charged by the U.S. Congress to facilitate liquidity in the U.S. residential, mortgage market.

Ginnie Mae: Government National Mortgage Association (or GNMA).

GLIS: The Geographic and Land Information Society is an ACSM Member Organization that encourages the appropriate use of surveying and mapping technologies in the development and use of geographic and land information systems.

Homer Hoyt Institute: an independent, non-profit research and educational foundation established in 1968 that contributes to improving the quality of public and private real estate decisions.

HUD: The U.S. Department of Housing and Urban Development is charged with improving U.S. residential housing.

ICSC: International Council of Shopping Centers is the global Trade Association of the shopping center industry. Founded in 1957, it advances the development of the shopping center industry and establishes the individual shopping center as a major institution in the community.

IFMA: The International Facilities Management Association is the professional association for facility management. Globally, it certifies facility managers, conducts research, provides educational programs, and recognizes facility management degree and certificate programs.

IPI: The International Parking Institute provides leadership, education, technical resources and information to the parking profession and related fields

IREM®: The Institute for Real Estate Management helps real estate managers prosper, add value to their companies and the properties they manage and advances the profession of real estate management. It sponsors the CPM®, Certified Property Management®, title**.**

IRS: U.S. Internal Revenue Service.

LMREOC: Life Mortgage and Real Estate Officers Council.

MAI®: The Appraisal Institute's membership designation held by appraisers who are experienced in the valuation and evaluation of commercial, industrial, residential and other types of properties, and who advise clients on real estate investment decisions. A collective service mark that members of the Appraisal Institute use to identify their real estate appraisal and consulting services and to distinguish their services from those of non- members. A collective membership mark owned by the Appraisal Institute® that its members use to indicate membership therein. The trademark is used as a proper adjective and not as a noun".

MBA: The Mortgage Bankers Association was founded in 1914 and is a national Trade Association that enables its members to invest in communities and achieve their business objectives by developing innovative business tools, educating and training industry professionals, providing a gathering place for the sharing of ideas, acting as the industry's voice on legislative and regulatory issues, and developing open and fair standards and practices for the industry.

MHI: The Manufactured Housing Institute is the national Trade Association representing all segments of the factory-built housing industry. It serves its membership by providing industry research, promotion, education and government relations programs, and by building and facilitating consensus within the industry.

MSRB: The Municipal Securities Rulemaking Board is an independent self-regulatory organization, consisting of representatives of Securities firms, dealer banks and the public that is charged with primary rulemaking authority over dealers, dealer banks and brokers in connection with their municipal Securities activities. MSRB rules are approved by the SEC and enforced by NASD for broker-dealers other than dealer banks and by the appropriate regulatory agencies for dealer banks

Moody's: Moody's Investors Service, Inc. is a NRSRO credit rating agency.

NAA: The National Apartment Association, "America's Leading Advocate For Quality Rental Housing", is a Trade Association, founded 25 years ago, that serves the interests of multifamily housing owners, managers, developers and suppliers and maintains a high level of professionalism in the multifamily housing industry to better serve the rental housing needs of the public. It is a federation of 164 state and local affiliates. Through a joint legislative alliance with the National Multi Housing Council, it protects and represents its members' interests with regard to legislative and regulatory issues at the federal government level. It also provides education and training opportunities for both multi-site managers and on-site staff.

NAEP: The National Association of Environmental Professionals is a multidisciplinary, professional association dedicated to the promotion of ethical practices, technical competency, and professional standards in the environmental fields.

NAHB: The National Association of Home Builders is a Trade Association that enhances the climate for housing and the building industry and provides and expands opportunities for all consumers to have safe, decent and affordable housing. As "the voice of America's housing industry," NAHB promotes policies that will keep housing a national priority. Founded in 1942, it is a federation of more than 800 state and local associations that analyzes policy issues, takes the industry's story to the public, monitors and works toward improving the housing finance system, analyzes and forecasts economic trends, represents the industry's interests on Capitol Hill, ensures housing is a national priority when laws are made and policies are established, works with federal agencies on regulations affecting housing, and shapes decisions of the courts such that laws and regulations may be interpreted favorably for the housing industry.

NAIC: The National Association of Insurance Commissioners is a non-profit regulatory association that assists state insurance regulators in serving the public interest and achieving fundamental insurance regulatory goals in a responsive, efficient and cost effective manner, consistent with the wishes of its members. Founded in 1871, it develops model laws and regulations, maintains market information systems, prepares statistical reports and analysis, sources industry information, review annually and re-examines every five years the quality of regulation in an insurance department, promotes and provides technical expertise, operates a securities valuation office, conducts Federal and international government relations, tracks non-U.S. insurers, assists in financial surveillance, offers professional development programs and assists in market regulation.

NAIOP: National Association of Industrial and Office Properties is a Trade Association that represents the interests of developers and owners of industrial, office and related commercial real estate throughout North America by providing communication, networking and business opportunities for all real estate related professionals, by offering continuing education and by promoting effective public policy through its governmental affairs department and its grassroots network to create, protect and enhance property value

NAR®: The National Association of Realtors® is "The Voice for Real Estate" ® and a Trade Association whose core purpose is to help its members become more profitable and successful. It was founded in 1908 and provides a facility for professional development, research and exchange of information among its members and to the public and government for the purpose of preserving the free enterprise system and the right to own, use, and transfer real property.

NAREIM: The National Association of Real Estate Investment Managers was founded in 1990 and provides a dialogue on the challenges and opportunities in the real estate industry on a timely basis through Discussion Forums, that focus on operational and strategic issues and provide exposure to a variety of viewpoints.

NAREIT: The National Association of Real Estate Investment Trusts® is a national Trade Association for REITs and publicly traded real estate companies. Its services include representation before national and state policymakers on matters that affect the REIT and publicly traded real estate industry, a voice for the publicly traded real estate industry with the financial media and the investment market, and the latest industry research information about REITs.

NASD®: The National Association of Securities Dealers is the world's leading private-sector provider of financial regulatory services, helping to bring integrity to the markets and confidence to investors.

NCCA or **National Commission for Certifying Agencies:** The National Commission for Certifying Agencies is an independent accreditation organization that provides the quality benchmark against which voluntary certification programs measure themselves**.** It was founded in 1989 by the National Organization for Competency Assurance ("NOCA") and replaced an earlier commission that was founded in 1977 and that cooperated with the U.S. Government to develop standards of excellence for voluntary certification. The purpose of NCCA is to provide the public and other stakeholders the means by which to identify certification programs that serve their needs. It has identified the essential components of a national certification and recertification program and determines whether a certification organization (e.g., the CRI Society) meets established standards based on these essential components. Professional programs that are not accredited by NCCA include the CCIM®, CFA®, CMB, CPM®, CRE, MAI®, and SIOR designations. The CFP® certification is accredited by NCCA.

NCLI: National Council of Life Insurers.

NCREIF: The National Council of Real Estate Investment Fiduciaries is an association of institutional real estate professionals, including investment managers, plan sponsors, academicians, consultants, appraisers, CPA's and other service providers, who have a significant involvement in pension fund real estate investments and who address vital industry issues and to promote research.

NIC: The National Investment Center for the Seniors Housing & Care Industries facilitates efficient capital formation for the seniors housing and care industries through research, networking, and providing business and financial information.

NIRI or **National Investor Relations Institute:** is dedicated to advancing the practice of investor relations and the professional competency and stature of its members. It is a professional association of corporate officers and investor relations consultants responsible for communications among corporate management, shareholders, security analysts and other financial publics.

NMHC: National Multi Housing Council is a national Trade Association representing the interests of the larger and most prominent apartment firms. It advocates on behalf of rental housing, conducts apartment-related research, encourages the exchange of strategic business information, and promotes the desirability of apartment living. NMHC and the National Apartment Association unite under the auspices of the NMHC/NAA Joint Legislative Program to support legislative and regulatory policies that enable the apartment industry to provide high quality, affordable and accessible homes to the nation's renter households.

NOCA: National Organization for Competency Assurance is a membership organization of certification organizations providing technical and educational information concerning certification practices.

NSPS: The National Society of Professional Surveyors, Inc. is an ACSM Member Organization. It provides (i) the platform by which members can share their thoughts and opinions about common interest through business meetings, committees, regional groups and student chapters, and (ii) a forum for input from other groups such as the National Association of County Surveyors, members of state boards of registration, and the Forum for State Surveying Society Executives. It administers a number of certification programs including Certified Survey Technician (CST), Hydrographic Surveyor Certification, and Certified Flood Plain Surveyor.

Ofheo: Office of Federal Housing Enterprise Oversight.

PREA: Pension Real Estate Association is a nonprofit organization, founded in 1979, whose members are engaged in the investment of tax-exempt pension and endowment funds into real estate assets and that sponsors objective forums for education, research, membership interaction and information exchange.

RERI: The Real Estate Research Institute is a 501(c)(3) non-profit corporation that stimulates high quality research on real estate investment performance and market fundamentals to elevate the quality of real estate decision making. Incorporated in 1987 as the NCREIF Research Institute under the sponsorship of the National Council of Real Estate Investment Fiduciaries, its name was changed to the Real Estate Research Institute in 1992. Administrative functions of the Institute are housed at the Pension Real Estate Association. {see PREA}

RICS: Royal Institute of Chartered Surveyors.

RLI: The REALTORS® Land Institute is an affiliate of the National Association of REALTORS®. It is focused on land brokerage and originally was named the Farm & Land Institute.

RMA: The Risk Management Association is a nonprofit, member-driven professional association whose sole purpose is to advance the use of sound risk principles in the financial services industry. It promotes an enterprise-wide approach to risk management that focuses on credit risk, market risk, and operational risk. It does not lobby.

SIOR: A professional affiliate of the National Association of REALTORS®, the Society of Industrial and Office Realtors® is a Trade Association that was founded in 1941 and maintains a commitment to business and industry by providing professional services, publications, and educational programs. It:

- offers opportunities for developing contacts among commercial, industrial and office property brokers and between corporate real estate executives
- assists members in building media relationships and enhancing personal business recognition
- sponsors a peer-based system for resolving business disputes
- certifies, with the SIOR (Specialist, Industrial and Office Real Estate) title, its members who are: Licensed in the state of business residency; Actively engaged as either a full-time industrial and/or office real estate broker, brokerage salesperson, or sales manager (with recent brokerage experience); A full-time manager of at least ten (10) industrial and/or office brokers and/or salespersons; or A full-time advisor or consultant performing assignments, undertaken for a fee that is not contingent on the completion of a transaction, that involve industrial and/or office real estate (excluding appraisals), and has a credible production record

S&P: Standard and Poor's Corporation is a NRSRO credit rating agency.

Trade Association: A gathering of business organizations or persons having similar concerns, engaged in similar fields and formed for a common business interest or purpose that takes joint actions for its members' mutual benefit and protection including advertising, collecting industry data, engaging in public and government relations, establishing and maintaining industry standards, exchanging industry ideas and statistics and marketing.

ULI: The Urban Land Institute is a 501(c) (3) nonprofit research and education organization, founded in 1936, that represents the entire spectrum of land use and real estate development disciplines, working in private enterprise and public service. It facilitates the exchange of ideas, information and experience among local, national and international industry leaders and policy makers dedicated to creating better places. Its mission is to provide responsible leadership in the use of land to enhance the total environment. ULI neither lobbies nor acts as an advocate for any single industry. It examines land use issues, impartially reports findings, and convenes forums to find solutions to complex land use problems, collaborating with industry and stakeholder groups worldwide.

USGBC: The U.S. Green Building Council is the nation's leading nonprofit coalition for advancing buildings that are environmentally responsible, profitable and healthy places to live and work. Its programs include the Council's Leadership in Energy and Environmental Design (LEED®) Green Building Rating Systems™ for New Construction, Existing Buildings, Commercial Interiors and Homes; LEED Workshops; LEED Professional Accreditation; and the Greenbuild International Conference & Expo.

WIRE: Women In Real Estate is a San Francisco based Trade Association, founded in 1983, that supports and promotes women in the commercial real estate industry and organizes meetings where guest speakers present issues that are pertinent to the real estate profession.

APPENDIX F
Certification Terminology

The information and other material contained, cited or referenced in this Appendix do not constitute any accreditation counsel. They are solely for the purpose of understanding the certification process used by the CRI Society. In all events, one should seek independent, qualified counsel.

This terminology explains the process of building and operating an accredited, certification program, including the relevant references to the CRI Charter program.

Accreditation: In general, the approval of an educational or Certification Program according to defined standards (e.g., the *NCCA Standards for the Accreditation of Certification Programs*).

Administrative Independence: An organizational structure for the governance of a Certification Program (e.g. the CRI Certification Program) that ensures control over all essential Certification and Recertification decisions without being subject to approval by or Undue Influence from any other body.

Alpha Tester: A qualified and appropriately trained person who actively and satisfactorily participates in the initial or pilot testing, reviewing, rewriting, reassessing and the eliminating or approving of the Items, or questions, in a test.

Applicant: A person who declares interest in:

- earning a credential (e.g., the CRI® Charter) offered by a Certification Program (e.g. the CRI Society), and/or
- becoming a member in a professional organization (e.g., the CRI® Society),

through a request for information and the satisfactory submission of required materials. {see section 6.0}

Assessment Instruments: One of several standardized methods for determining if candidates possess the necessary knowledge and/or skill related to the purpose of the Certification. {see section 3, above, for information on related topics}

Autonomy: Control over all essential Certification and Recertification decisions without being subject to approval by or Undue Influence from any other body. Autonomy in the management and administration of Certification enhances the ability of Certification Programs to serve Stakeholder interests, primarily those of consumers of professional services.

Beta Tester: A qualified person who takes a preliminary draft of a test and whose test results are used in a psychometrically valid manner to assist in establishing a passing score for the test.

Candidate (a CRI® Candidate): A person who has satisfied the eligibility qualifications for, but has not yet earned, a credential (e.g., the CRI Charter) awarded through a Certification Program (e.g., the CRI Charter program).

Certification: A process, often voluntary, by which a person (e.g., a CRI Candidate) who has demonstrated the level of knowledge and skill required in the profession, occupation, role, or skill (e.g., in the Real Estate Investment Decision Making and/or Implementation Activities) is identified by the Certifying Agency (e.g., the CRI Society) to the public and other Stakeholders (e.g., through the award of a revocable right to hold the CRI Charter). {see Certification Program and Accreditation}

Certification (or **Certifying**) **Agency:** The organizational or administrative unit (e.g., the CRI Society) that offers and/or operates a Certification Program (e.g., the CRI Charter Certification Program).

Certification Board: A group of persons appointed or elected to govern one or more Certification Programs as well as the Certification Agency, and responsible for all certification decision making, including governance.

Certification Program: The standards, policies, procedures, Assessment Instruments, and related products and activities through which persons are publicly identified as qualified in a profession, occupation, role, or skill. {see Certification}

Chartered Realty Investor® (CRI®): Chartered Realty Investor® is a proper adjective that only modifies a proper noun (e.g., Chartered Realty Investor Charter or Chartered Realty Investor Charter holder). It is not a proper noun; It is wrong to say, “The person is a Chartered Realty Investor ”. “Chartered Realty Investor” shall not be used in the plural or as a possessive; It is wrong to say, “Two executives are Chartered Realty Investors”, or “She has a Chartered Realty Investor’s understanding of investments”. {see section 10.1, Using the CRI Society Titles Correctly and section 1.1, Defining a CRI Charter holder}

Conduct Agreement: A CRI Society form that an Applicant satisfactorily must complete and submit to:

- enroll in a CRI Exam or
- become a member of the CRI Society.

{see Appendix E, Disclosure Statement and Exam Enrollment Form}

Consumer: see Public Member.

Continuing Competence: The standard of conduct that requires the ability to provide service at specified levels of knowledge and skill, not only at the time of initial Certification, but throughout a person's professional career.

Continuing Education: Activities, often short courses that certified professionals (e.g. CRI Charter holders, not Applicants or Candidates) engage in to receive credit for the purpose of maintaining Continuing Competence and renewing Certification.

CRI®: Chartered Realty Investor® is a proper adjective that only modifies a proper noun (e.g., CRI Society or CRI Charter holder). It is not a proper noun (i.e. It is wrong to say, "The person is a CRI" or, "The person has a CRI"). It shall not be used in the plural or as a possessive. {see section 1.1 Defining a CRI Charter holder and section 10.1, Using the CRI Society Titles Correctly}

CRI® Candidate (a **Candidate):** {see Candidate and section 10.1, Using the CRI Society Titles Correctly}

CRI® Charter holder: A Fiduciary Participant who has been awarded a limited, revocable right to hold the CRI designation from the CRI® Society by satisfying all of the CRI Society's published, uniform standards and criteria, that legally, objectively and fairly evaluate the:

- Verifiable merits of a CRI Candidate and
- Continued compliance of a CRI Charter holder.

{see section 1.1 Defining a CRI Charter holder, section 9.1.2, Continuing Requirements to Hold the CRI Charter and section 10.1, Using the CRI Society Titles Correctly}

Distracter(s): The three, incorrect responses in an Item.

Disclosure Statement: A CRI Society form that a person satisfactorily must complete and submit:

- with each CRI Exam Enrollment Form,
- to become a member of the CRI Society, and
- annually during the term of CRI Society membership.

{see Appendix E, Conduct Agreement & Enrollment Form}

Equating: A statistical process authorized by NCCA and used by a Certification Program (e.g. the CRI Certification Program) to convert scores on two or more alternate forms of an assessment instrument (e.g. a CRI Level 2 Exam} to a common score for purposes of comparability and equivalence.

Item: A problem and/or question that appears in an assessment instrument (e.g., a CRI Exam) and to which candidates must respond. An Item consists of a Set-up, one Key and three Distracters.

Key: The correct answer in an Item. {see section 5.3}

NCCA or National Commission for Certifying Agencies: The National Commission for Certifying Agencies is an independent accreditation organization that provides the quality benchmark against which voluntary certification programs measure themselves**.** It was founded in 1989 by the National Organization for Competency Assurance ("NOCA") and replaced an earlier commission that was founded in 1977 and that cooperated with the U.S. Government to develop standards of excellence for voluntary certification. The purpose of NCCA is to provide the public and other stakeholders the means by which to identify certification programs that serve their needs. It has identified the essential components of a national certification and recertification program and determines whether a certification organization meets established standards based on these essential components.

NOCA or National Organization for Competency Assurance: A membership organization of certification organizations providing technical and educational information concerning certification practices.

Public Member (aka **Consumer):** A representative of the consumers of services provided by a defined certification member group (e.g., the CRI Charter holder) population, serving as a voting member on the governing body of a Certification Program (e.g., the CRI Society Certification Program).

The Public Member is/has not:

- A current or previous member of the profession encompassed by the Certification Program of the Certification organization.
- An employer or an employee of persons in the profession encompassed by the Certification Programs of the Certification organization.
- An employee of a person certified by the Certification organization or of an employer of persons in the profession encompassed by the Certification Programs of the Certification organization.
- An employee of any Certification organization.
- Currently deriving more than 5% of their total income from the profession encompassed by the Certification Programs of the Certification organization.
- Derived in any of the five years preceding my appointment as a Public Member on the governing body more than 5% of their total income from the profession encompassed by the Certification Programs of the Certification organization.
- Worked for or provided contract services to the Certification organization at any time during the five years preceding my appointment as a Public Member on the governing body.

Recertification: Requirements and procedures established as part of a Certification Program or Accreditation Program (i.e., the NCCA accreditation program) that an individual having been awarded a Certificate must satisfy in order to ensure Continuing Competence and renew their Certification (e.g. the CRI Charter).

The purpose of periodic Recertification is to measure continued competence and/or to enhance continued competence. If the purpose of Recertification is to measure continued competence of an awardee, then the

Certification Program must substantiate the validity and reliability of the Assessment Instruments.

Score Item: A Candidate's Level 2 Exam score will be based on 100 Items (the "Score Items") that are randomly located in the entire 125 Item Exam. 25 Items (the "Pretest Items") in the Exam do not affect the score and also are randomly located in the Exam and are used to measure continued competence. If the purpose is to enhance continued competence of an awardee, then the Certification Program must demonstrate how the policy contributes to his/her professional development.

Set-up: The background information and actual question in an Item.

Stakeholder: An entity, including Candidates, Charter holders, Clients, Customers, employers, regulators and third party payers, with an interest in the governance, quality and operation of the CRI Charter Certification Program.

APPENDIX G
Websites for Additional Information

The following sources provide optional, supplemental information on topics in or related to this *Guide*. Citations, links or pointers connecting with web sites and other sources are provided by the CRI® Society as a courtesy only. The CRI Society assumes no responsibility or liability for such other sites' content, accuracy, or compliance with applicable laws.

- **Accreditation –** see NCCA's *Standards for Accreditation of Certification Programs*
  www.noca.org/ncca/docs/STANDARDS904.pdf
- **Agriculture** – see New Mexico State University's *Agricultural Glossary*
  www.cahe.nmsu.edu/news/aggloss.html
- **Appraisals –** see The Appraisal Institute's *Uniform Standards of Professional Appraisal Practice*
  www.freddiemac.com/mbs/html/cs_terms.html
- **Asset Manager, Conduct –** see *Asset manager Code of Professional Conduct*
  www.cfainstitute.org/cfacentre/positions/pdf/asset_manager_code.pdf..
- **(Securities) Broker-Dealer Registration –** see *U.S. SEC Guide to Registration*
  www.sec.gov/divisions/marketreg/bdguide.htm#II
- **Commercial Mortgage Backed Securities –** see CMBS' *Glossary* in Adobe Acrobat Pfd. format
  www.cmbs.org/about/Glossary1.pdf
- **Corporate Bond Underwriting Process –** see Bond Market Association's plain English documentation
  www.bondmarkets.com/assets/files/Corporate_Bond_Underwriting_PlainEnglish_12092004.pdf
- **Corporate Governance, Global Principles –** see *The Corporate Governance of Listed Companies: A Manuel*
  www.cfainstitute.org/cfacentre/cmp/pdf/cfa_corp_governance.pdf
- **Corporate Governance, Glossary of Terms –** see Council of Institutional Investors
  www.cii.org/library/learning/glossary_of_terms.htm#c
- **Corporate Governance, Listed Companies –** see *Final NYSE Corporate Governance Rules*
  www.nyse.com/pdfs/finalcorpgovrules.pdf
- **Derivatives, Accounting Risk** – see FASB Statement No. 133 *Accounting for Derivative Instruments and Hedging Activities*
  www.fasb.org/pdf/fas133.pdf
- **Derivatives (Exchange-Traded)** Glossary – see Chicago Mercantile Exchange's *Resources-Glossary of Terms*
  www.cme.com/edu/course/resources/glossary.html
- **Derivatives (Exchange-Traded) for Currency Risk Management** – see Chicago Mercantile Exchange
  www.cme.com/files/FXFOWCME.pdf
  www.cme.com/files/FXComparingFuturesForwardsManagingCurrency.pdf
- **Derivatives (Exchange-Traded) for Interest Rate Risk Management** – see Chicago Mercantile Exchange
  www.cme.com/files/ir_basics.pdf
- **Derivatives (Exchange-Traded) for Risk Mngm't. of Single Family Housing** – see Chicago Mercantile Exchange
  www.cme.com/files/CmeCsiHousingIntroWhitePaper.pdf
  www.cme.com/files/CmeCsiHousing.pdf
- **Derivatives (Exchange-Traded) for Risk Management of Weather** –
  see Chicago Mercantile Exchange's *Alternative Investment Products-Weather* for temperature-based index futures and options
    www.cme.com/files/IntroWeatherFINAL.pdf.
  see Weather risk Management Association's *Case Studies*
    Construction Industry – www.wrma.org/wrma/library/file772.pdf
    Agriculture – www.wrma.org/wrma/index.php?option=com_content&task=view&id=27&Itemid=33
- **Derivatives, Regulation** – see National Futures Association

www.nfa.futures.org/aboutnfa/indexAbout.asp

- **Derivatives, Swap Transactions** – *ISDA 1987 Interest Rate and Currency Exchange Definitions*
  www.isda.org
- **Derivatives, Trade Association** – see International Swaps and Derivatives Association, Inc.
  www.isda.org.
- **Hazard Map** – see ESRI and FEMA Hazard Information and Awareness flood, earthquake etc. maps
  www.esri.com/hazards/makemap.html
- **Fannie Mae –** see *Glossary of Mortgage Terms*
  www.fanniemae.com/homebuyers/glossary/index.jhtml;jsessionid=ZCBSUAXLU0SH1J2FQSISFGA
  p=Resources&s=Glossary
- **Fannie Mae –** see Prospectuses and Related Documents
  www.fanniemae.com/mbs/disclosure/index.jhtml?p=Mortgage-
  Backed+Securities&s=Prospectuses+%26+Related+Documents
- **Forestry Terminology** –
  see Australian Master Tree Grower Program's *Farm Forestry Glossary*
  www.mtg.unimelb.edu.au/publications/glossary.htm
  see Canadian Forest Service's *Glossary of Forestry Terms*
  www.nrcan-rncan.gc.ca/cfs-scf/science/prodserv/glossary_e.html
  see Maryland Dept. of Natural Resources' *Glossary of Forestry Terms*
  www.dnr.state.md.us/forests/gloss.html
  see University of Washington Rural Technology Initiative's *Links*
  www.ruraltech.org/links/forestry.asp
- **Freddie Mac –** see *Product Glossary*
  www.freddiemac.com/mbs/html/cs_terms.html
- **Freddie Mac –** see legal Documentation
  www.freddiemac.com/mbs/html/aop_historical_oc.html
- **Insurance –** see Rupp's *Insurance & Risk Management Glossary*
  www.insurance.cch.com/Rupps/index.htm
- **Insurance, Tenant's Requirements –** see NCREIF's *Guidelines for Insurance Language for Leases*
  www.ncreif.org/committees/pdf/Guidelines_for_Insurance_Language_for_Leases.pdf
- **Investment Adviser Registration –** see *Form ADV, Glossary of Terms*
  www.sec.gov/about/forms/formadv.pdf#glossary
- **Investment Manager** Glossary – see NAREIM's *Glossary of Terms for Real Estate Investment Managers*
  www.nareim.org/public/pdfs/glossTerms.pdf
- **Investment Policy Statement**, **sample state employee retirement system statements –** see:
  CalPERS: www.calpers.ca.gov/eip-docs/investments/policies/real-estate/real-estate.pdf
  Wisconsin Retirement System: www.swib.state.wi.us/investment_guides.pdf.
- **Investment Styles, Equity Real Estate –** see NCREIF's *Real Estate Investment Styles*
  www.ncreif.org/committees/pdf/2004-02-01_portfolio_minutes.pdf
- **Mining Terminology** – see Pennsylvania Dept. of Environmental Protection, Bureau of Deep Mine Safety *Glossary of Mining Terms*
- **NCCA Accreditation of a Certification Program**
  www.noca.org/ncca/accreditation.htm
- **Oil and Natural Gas**, glossary of petroleum reserves and resources – see Society of Petroleum Engineers:
  www.spe.org/spe/jsp/basic/0,,1104_3306579,00.html
- **Oil and Natural Gas, unit conversion factors** – see Society of Petroleum Engineers:
  www.spe.org/spe/jsp/basic/0,,1104_1732,00.html
- **Property Management –** IREM's *Glossary of Real Estate Management Terms*
  www.irem.org/sec1ins.cfm?sec=iremfirst&con=glossary_lookup.cfm&par
- ***Real Estate Information Standards* (*REIS*) terminology –** see NCREIF's *Glossary*

www.ncreif.com/resources/glossary.phtml
see NCREIF Property Index *Data Collection and Reporting Procedures Manuel: §5. Detailed Property Type Description & § 6. Glossary of Terms*
www.dataconsortium.org/documents/DSSUserManual/NCREIFUsersManual.html

- **REITs –** see NAREIT's *Glossary*
  www.investinreits.com/learn/glossary.cfm
- **Sarbanes-Oxley Act of 2002 –** see *Federal Register*
  www.frwebgate.access.gpo.gov/cgi-bin/useftp.cgi?IPaddress=162.140.64.89&filename=h3763enr.pdf&directory=/disk2/wais/data/107_cong_bills
- **Securities –** see MSRB's Glossary of Terms
  www.msrb.org/msrb1/glossary/default.asp
- **Securities –** see NASD 's *Glossary of Terms*
  www.nasd.com/web/idcplg?IdcService=SS_GET_PAGE&ssDocName=NASDW_009546&ssSourceNodeId=1108
- **Securities Rules –** see *NASD Manual*
  www.nasd.complinet.com/nasd/display/index.html
- **Securities Analysts Regulation –** see SEC Commission Information
  www.sec.gov/divisions/marketreg/securitiesanalysts.htm
- **Securities Definitions and Regulation–** see NASD *Glossary*
  www.nasd.com/web/idcplg?IdcService=SS_GET_PAGE&nodeId=766&ssSourceNodeId=6
- **Securities Definitions and Regulation –** see SEC Fast Answers
  www.sec.gov/answers.shtml#r-entries
- **Shopping Centers –** see *ICSC Shopping Center Definitions*
  www.icsc.org/srch/lib/library.php
- **Specially Designated Nationals and Blocked Persons ("SDN") –** see NASD's Search OFAC's SDN List
  www,apps.nasd.com/Rules_&_Regulations/ofac/default.asp
- **Surveying and Mapping –** see ACSM
  www.acsm.net/acsmintro.html
- **Surveys for Land Title**
  see *Minimum Standard Detail Requirements for ALTA/ACSM Land Title Surveys*
  www.acsm.net/alta99.pdf
  see *Accuracy Standards for ALTA-ACSM Land Title Surveys*
  www.alta.org/standards/surveys.pdf.
- **Title Insurance, definition of terms –** see ALTA Glossary
  www.alta.org/consumer/ltiglossary1.pdf
- **Title Insurance, Policies and Endorsements –** see *ALTA Standards and Forms*
  www.alta.org/standards/index.cfm
- **U.S. Office Buildings –** NAIOP's *Terms and Definitions of US Office Market 2004*
  www.naiop.org/services/usofficeterms.pdf
- **Water. definition of terms and measurement of properties** –
  see USGS *Water Science Glossary of Terms*
  ga.water.usgs.gov/edu/dictionary.html
  see State of Nevada Division of Water Resources *Water Words Dictionary*
  water.nv.gov/Water%20planning/dict-1/ww-index.htm.
  see USGS *Common Water Measurements: Temperature, pH, Specific Conductance, Turbidity, Dissolved Oxygen, Hardness and Suspended Sediment*
  ga.water.usgs.gov/edu/characteristics.html

Appendix H:
CRI® Level 2 Exam Application Forms

To submit an application to become a Candidate for the CRI Level 2 Exam, a Candidate must complete and return the following forms along with the appropriate Exam Fee to:

Chartered Realty Investor Society
P.O. Box 14924
Lenexa, KS 66285-4924

For overnight delivery, mail to: 18000 West 105th Street, Olathe, KS 66061

CRI®

CRI Candidate #: ______________________________

CRI® Level 2 Candidate Application

To apply for the CRI Level 2 Exam, complete this application and return the original copy and documentation with the exam fee to:

CHARTERED REALTY INVESTOR SOCIETY
P.O. BOX 14924, LENEXA, KS 66285-4924

For overnight delivery, mail to: 18000 West 105th Street, Olathe, KS 66061

PERSONAL INFORMATION *(Print using black or blue ink)*

❑ Mr. ❑ Ms. Name (Last, First, Middle): ______________________________

Company: ______________________________ Daytime Phone Number: ______________________________

Street Address: ______________________________

City: ______________ State: ______ Zip Code/Postal Code: ______________ Country: ______________

Evening Phone Number: ______________________________ E-mail Address: ______________________________

DISCLOSURE STATEMENT

The applicable disclosure statement must be signed and submitted with this application.

EXAM FEE

EXAM FEE: $795.00

Payment must be submitted with this application.

Payment may be made by credit card, company check, cashier's check or money order made payable to:

Chartered Realty Investor Society

The Exam Fee includes two (2) exam sittings for the Level 2 Exam within an 18-month period plus the cost of the CRI Level 2 Exam Candidate Guide on CD, which will assist Candidates in understanding the content of the exam and provide reference material for review.

Exam fee includes a one-year Associate membership in the Chartered Realty Investor Society.

If payment is made by credit card, complete the following:

- ❑ VISA
- ❑ MasterCard
- ❑ American Express

Credit Card Number: ______________________________

Expiration Date: ______________

Name on Card: ______________________________

Signature: ______________________________

SPECIAL ACCOMMODATIONS

I am including a Special Accommodation Request.

- ❑ Yes
- ❑ No

If yes, please complete the **Request for Special Accommodations** included in this packet and submit it with this application and fee at least 45 days prior to the desired testing date.

SIGNATURE (*Sign and date in ink the statement below.)*

I certify that I agree to abide by regulations of the CRI Society as contained in this packet. I believe that I comply with all admission policies for the CRI Level 2 Exam. I certify that the information I have submitted in this application is complete and correct to the best of my knowledge and belief. I understand that, if the information I have submitted is found to be incomplete or inaccurate, my application may be rejected or my exam results maybe delayed or voided. In addition, I understand that the exam content and computer screens are the intellectual property of the Chartered Realty Investor Society and Applied Measurement Professionals, Inc. and cannot be reproduced or transmitted in any form or by any means.

Applicant's Name *(Please print):* ______________________________

Applicant's Signature: ______________________________ Date: ______________

Chartered Realty Investor® Applicant Disclosure Statement Update

Since becoming a CRI® Candidate, have you been:

1. The subject of, defendant to, or respondent in any investigation, civil litigation, arbitration, or other action or proceeding in which your professional conduct, in either a direct or supervisory, capacity, was at issue? ❑ Yes ❑ No

OR

2. The subject of a written complaint regarding your professional conduct in either a direct or supervisory capacity? ❑ Yes ❑ No

---

I represent that the information contained in my application, including my answers to the Applicant Disclosure Update, is truthful and complete. I agree promptly to inform the Chartered Realty Investor Society of any changes to my responses and enrollment and registration information, including my current address.

Applicant's Name *(Please print):* ______________________________

Applicant's Signature: ______________________________ Date: ______________

Request for Special Exam Accommodations

If you have a disability covered by the Americans with Disabilities Act, please complete this form and the Documentation of Disability-Related Needs on the reverse side so your accommodations for testing can be processed efficiently. The information you provide and any documentation regarding your disability and your need for accommodation in testing will be treated in strict confidentiality.

APPLICANT INFORMATION

Name (Last, First, Middle): ______________________________

Street Address: ______________________________

City: ______________ State: ______ Zip Code/Postal Code: ______________ Country: ______________

SPECIAL ACCOMMODATIONS

I request special accommodations for the CRI Level 2 Exam.

Date of exam: ______________________________

Location of exam: ______________________________

Time of exam: ______________________________

Please provide (check all that apply):

- ❑ Accessible testing site
- ❑ Special seating
- ❑ Reader
- ❑ Extended testing time (time and a half)
- ❑ Distraction-free room
- ❑ Other special accommodations (Please specify)

____

____

COMMENTS: ______________________________

____

____

Applicant's Name *(Please print):* ______________________________

Applicant's Signature: ______________________________ Date: ______________

Continued on next page

Documentation of Disability-Related Needs

Please have this section completed by an appropriate professional (education professional, physician, psychologist, psychiatrist) to ensure that AMP is able to provide the required test accommodations.

PROFESSIONAL DOCUMENTATION

I have known ________________________ since ______ / ______ / __________ in my capacity as a
Applicant Date

____.
Professional Title

The candidate discussed with me the nature of the test to be administered. It is my opinion that, because of this applicant's disability described below, he/she should be accommodated by providing the special arrangements listed on the reverse side.

COMMENTS: ____

____

____

____

____

____

____

____

Signed: ____ Title: ____________________

Printed Name: __________________________________ Date: ____________________

Phone Number: __________________________ License # (if applicable) ____________________

Street Address: ____

City: ________________ State: ______ Zip Code/Postal Code: ____________ Country: ______________

For questions regarding certification and exam application, contact:

Chartered Realty Investor Society
P.O. Box 14924
Lenexa, KS 66285-4924
Phone: 913.895.4619
cris-info@goamp.com
www.crisociety.org

For questions regarding exam administration, contact:

Applied Measurement Professionals, Inc. (AMP)
18000 West 105th Street
Olathe, KS 66061-7543
Phone: 913.895.4600
FAX: 913.895.4650
info@goAMP.com
www.goAMP.com

Chartered Realty Investor Society
P.O. Box 14924
Lenexa, KS 66285-4924
www.crisociety.org